



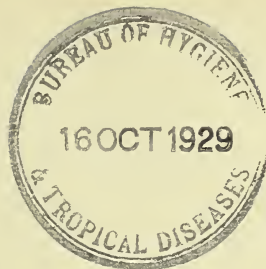
COUNTY BOROUGH OF BIRKENHEAD.



ANNUAL REPORT
OF THE
MEDICAL OFFICER
FOR
1928.

D. MORLEY MATHIESON, M.A., M.D. (Edin.), Ch.B., D.P.H.

Medical Officer of Health, and
Chief Medical Officer for the Municipal Tuberculosis, Mental Deficiency,
Maternity and Child Welfare, &c., Schemes, and for the School Medical Service,



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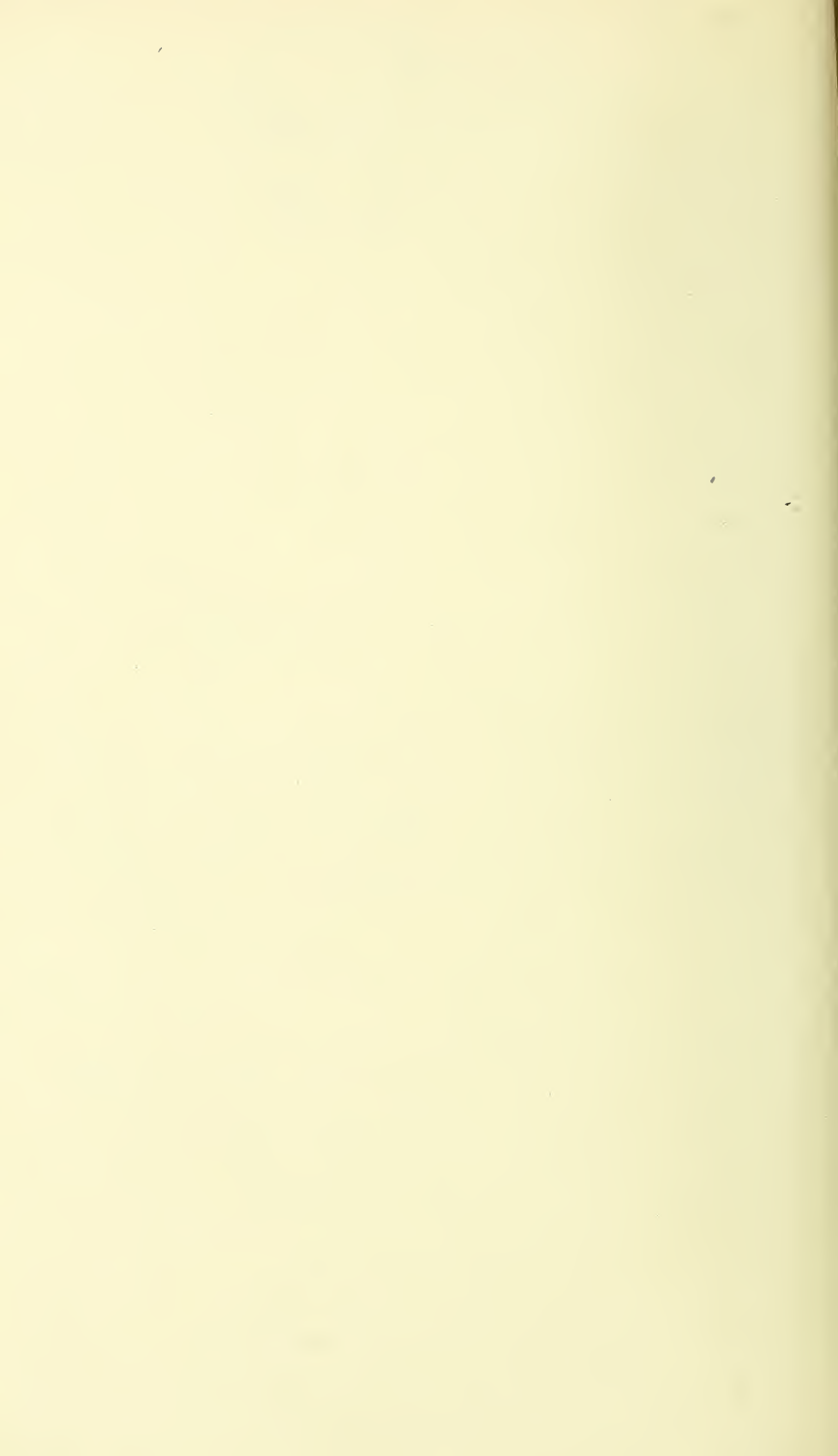


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CHAIRMEN OF COMMITTEES.

| | |
|--|------------------------------|
| Health Committee | Alderman TWEEDLE, J.P. |
| Education Committee | Alderman ARKLE, O.B.E., J.P. |
| Maternity & Child Welfare Committee... | Alderman Mrs. MERCER. |
| Mental Deficiency Committee | Councillor HERRON. |
| Water Committee | Councillor POWER. |

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PREFACE.

The extension of the boundaries of the Borough to include the Parishes of Prenton, Landican, and Thingwall, and part of the Parish of Bidston, took effect on the 1st April, 1928. The total **area** thus added to the Borough was 2,092 acres, the estimated population of this area being 2,754. The area of the extended Borough is now 6,016 acres or 9.4 square miles.

The official estimates of the **population** of the Borough have recently shown curious fluctuations. The Registrar-General gave the mid-year population of the unextended Borough in 1927 as 158,500. A later estimate (no doubt taking into account the addition of the population in the added areas) placed the mid-year population at 162,000. Going by this it was expected that, in view of the natural increase in the population as between mid-year 1927 and mid-year 1928, the estimate of the population of the extended Borough at the latter date would be in the neighbourhood of 163,000. It was somewhat surprising, therefore, to find when the Registrar-General's estimate was received that the official figure for mid-year 1928 had been fixed at only 159,200.

This question of population estimates has a special significance at the present time in view of the coming into operation of the Local Government Act, 1929. Under the provisions of this Act the estimated population of an area for the first grant period (1st April, 1930, to 31st March, 1933) is the population estimated by the Register-General for the year 1928. The pressing need for the taking of a census of the population at less than ten-yearly intervals is very apparent.

The **birth-rate** for 1928 was 18.5 as compared with 18.2 in 1927. Until last year there had been a steady decline since 1920.

The **death-rate** for 1928 was 12.3, this figure corresponding to the average for the last ten years.

The **infantile-mortality rate** for 1928 was 80 per 1,000 births, as compared with 95 in 1927. While this improvement is welcome, there is still room for much progress; it is to be hoped that a progressive decline will be recorded in future reports.

The number of deaths from **cancer** rose from 206 in 1927 to 229 in 1928. The crude death-rate from cancer for England and Wales per 100,000 of the population rose from 137 in 1927 to

142 in 1928. It must be emphasised that this is the rate uncorrected for age and that a great deal of the apparent increase can be accounted for by the rapidly increasing proportion of elderly persons in the population. The improvement in diagnosis, which results in a larger proportion of cases of cancer being recognised, must also be kept in mind. There is justification for the belief that some actual increase in the incidence of cancer has occurred throughout the country since the beginning of the century; but there is absolutely no justification for the absurdly exaggerated statements made in certain quarters on the strength of the misinterpretation of uncorrected statistics.

The first report of the findings at the **meteorological station at Thingwall Sanatorium** is given this year and will be found on pages 1 to 4.

Reference to the anomalies and difficulties associated with the supply of **graded milks** to the public are dealt with on page 32.

The problem of the **after-care of ex-sanatorium cases** is one of much importance; on page 52 reference is made to this subject.

The accommodation at the **Fever Hospital** was considerably taxed by the outbreak of Scarlet Fever which occurred during the past year. The need for the provision of additional accommodation is receiving the attention of the Health Committee.

The new scheme adopted by the Council for the provision of assistance to **blind persons** is set out on pages 76 to 81 of this report.

The urgent need for provision of adequate institutional accommodation for cases of **mental deficiency** is again revealed in this year's report. The Cheshire Joint Board for the Mentally Defective had under consideration at the end of the year the purchase of a site for the proposed new joint institution.

The work of **public health education** has been extended during the year and has been welcomed by the public (page 91).

The building of a branch **Health Clinic** to serve the north end of the Borough will be begun in 1929.

Prospective arrangements under the **School Medical Service** for dealing with certain special categories of children are discussed on pages 101 and 102.

SHORT STATISTICAL SUMMARY.

1928.

| | |
|---|----------------------------------|
| Area of the extended Borough | 6,016 acres, or 9.4 square miles |
| Estimated population (at midsummer) | 159,200 |
| Number of persons per acre (density of population) | 26.4 |
| Estimated number of houses in Borough | 31,008 |
| Number of inhabited houses at time of census, 1921 | 26,630 |
| Rateable value | £983,607 |
| Estimated product of penny rate | £3,530 |
| Birkenhead rates, 1928-1929 | 12/1 in the £ |
| Birth-rate per 1,000 of the population | 18.5 |
| Death-rate ,, ,, | 12.3 |
| Average death-rate for the last ten years | 12.3 |
| Tuberculosis death-rate per 1,000 of the population | 1.2 |
| Infantile mortality rate (per 1,000 births) | 80 |
| Average number of children in elementary schools | 23,412 |
| Number of elementary school children medically inspected during year | 8,464 |

ADMINISTRATION.

General administrative arrangements.—The detailed arrangements made by the local authority for dealing with various branches of health work—*e.g.*, maternity and child welfare, tuberculosis, etc.—are set out in the appropriate sections of this report.

Staff.—The staff engaged on the work of the department consisted at the end of 1928 of the following:—

Medical Officer of Health and Chief Administrative Medical Officer:

D. MORLEY MATHIESON, M.A., M.D. (Edin), Ch.B., D.P.H.

Assistant Medical Officers:

MARY A. S. DEACON, M.B.E., M.B., B.S., D.P.H.

H. MASON LEETE, M.D., B.S., B.Hy., D.P.H.

F. G. FOSTER, M.A., M.D., Ch.B., D.P.H.

ANNA MAY WILLIAMS, M.B., Ch.B., D.P.H.

D. G. ANDERSON, M.B., Ch.B., D.P.H.

Dental Surgeons:

P. WILSON SMITH, L.D.S., R.F.P.S. (Glas.).

EVELINE M. WARLOW, L.D.S. (L'pool.).

Veterinary Officer:

H. L. TORRANCE, M.R.C.V.S., D.V.S.M. (Vict.).

Bacteriologist and Pathologist:

*Professor J. M. BEATTIE, M.A., M.D., etc.

Analyst:

*HERBERT E. DAVIES, M.A., B.Sc., F.I.C.

Orthopædic Surgeon:

*T. HARTLEY MARTIN, M.B., Ch.B.

Inspectors:

ALFRED LONGSTAFF (Chief Inspector and Inspector under the Food and Drugs Acts).

H. L. BATY (Housing Inspector), W. H. TILSTON, J. CROSHAW, G. WILLS, W. H. BATES, R. E. JONES, T. OVERSBY, J. S. RATCLIFFE, H. AULT (District Sanitary Inspectors), H. HOLDEN (Workshops, Food and Drugs, etc., Inspector), W. S. EDWARDS (Infectious Diseases Inspector), J. JACKMAN (Common Lodging Houses Inspector), ARCHBELL CARNIE (Meat Inspector), ALLEN COUPE (Assistant Meat Inspector).

Matron, Isolation Hospital:

Miss EMILY YEOMANS.

Matron, Thingwall Sanatorium:

Miss I. R. MILLAR.

Health Nurses:

Miss K. NIXON (Chief Health Nurse).

Mrs. L. E. FLETCHER (Health Nurse and Inspector of Midwives).

Miss A. G. ADAMS, Miss J. BEATTIE, Miss M. P. FAULDS, Miss M. M. GRAHAM, Miss E. HENDLEY, Miss M. JONES, †Miss F. D. LEWIS, Miss J. McDONALD, Miss G. F. PARKINSON, Miss L. PEACE, Miss E. RAMAGE, Miss E. A. SMITH, Miss G. SMITH, Miss A. I. STEELE, Miss J. A. WARD, Miss L. WILSON, Mrs. C. B. WILLIAMS.

*Not whole-time officers.

†Retired under Superannuation Scheme on 30th September, 1928.

Clerks:

J. BENNETT (Chief Clerk). J. OWEN (Senior Clerk).

E. P. ROGERS, R. BAKER, C. MARTIN, L. PINGUEY, F. OWENS, W. S. SHAW, J. CHALLINOR, N. WILSON (Clerks); Miss E. M. PINCHES (Records Clerk); Miss B. CHALLINOR, G. DAVIES, W. ROBSON (Junior Clerks); Miss I. SHORTER, Miss J. MATHIESON (Typists); J. Moreton, J. LOWSBY, A. BARNETT (Office Boys).

School Teacher, Thingwall Sanatorium:

Miss A. BURY.

Other Staff:

NURSING STAFF, ISOLATION HOSPITAL—18.

DOMESTIC STAFF, ISOLATION HOSPITAL—16.

MALE STAFF, ISOLATION HOSPITAL—6.

NURSING STAFF, THINGWALL SANATORIUM—7.

DOMESTIC STAFF, THINGWALL SANATORIUM—7.

MALE STAFF, THINGWALL SANATORIUM—4.

ASSISTANTS ON MEAT INSPECTION WORK—2.

LAVATORY ATTENDANT—1.

SUPERANNUATION SCHEME.

The Local Government and Other Officers' Superannuation Act, 1922, was adopted by the Birkenhead Corporation in June, 1923, and came into operation on 1st August, 1923.

The number of posts in the Corporation service designated as "established posts" for the purposes of the Act was 1,906, of which 1,711 were actually filled at the date on which the Act came into force, and 195 were additional posts. Since the commencement of the scheme 166 new posts have been created, making a total of 2,072.

Medical examinations carried out during 1928.—(a) During the past year 102 examinations of selected applicants for designated posts were carried out.

| Department. | Designated Posts |
|----------------------------|---------------------|
| Baths | 1 |
| Education | 3 |
| Electricity | 4 |
| Ferries | 5 |
| Gas | 4 |
| Libraries | 1 |
| Markets | 3 |
| Medical Officer's | 9 |
| Parks | 1 |
| Town Clerk's | 1 |
| Tramways | 59 |
| Treasurer's | 9 |
| Weights and Measures | 2 |
| | <hr/> |
| Total examinations | 102 |
| | <hr/> |

NOTE.—In addition to the above there were 55 re-examinations during 1928.

(b) During the year special arrangements were made for the medical examinations of certain tramways employees.

Each year a number of men are taken on in the Tramways Department in a temporary capacity, but with a definite view to permanent employment.

The Tramways Manager (Mr. Cyril Clarke) estimates that approximately 95% of the men so engaged in any year are, within two

years, put forward for appointment to designated posts under the Corporation's Superannuation Scheme.

Under the Council's original arrangement these men had to submit to a medical examination prescribed in the Superannuation Scheme, and if they failed to pass this they could not be appointed to the designated posts concerned.

Certain difficulties arose under this arrangement. It was, therefore, decided that, as the conditions of employment of these men were quite exceptional in the Corporation service, special arrangements should be made for their medical examination, as follows:—

- (a) Each man to be examined by the Medical Officer prior to his engagement in a temporary capacity
- (b) no man to be engaged who did not pass this examination
- (c) if and when an established post become available for a man, a note of the proposed appointment to be sent by the Tramways Manager to the Medical Officer but no further medical examination to be required.

This arrangement will be strictly limited to men engaged in a temporary capacity but specifically with a view to permanent employment; and will not apply to any case where a longer period than two years elapses between the date of engagement in a temporary capacity and the date of appointment to a designated post.

During the period this arrangement was in operation 134 employees were medically examined under the scheme.

COST OF HEALTH SERVICES.

The *net* estimated cost to the Corporation (after deducting Exchequer grants) of all the Health Services dealt with in this report, for the financial year 1928-1929, was covered by a local rate of $10\frac{1}{2}$ d. in the £.

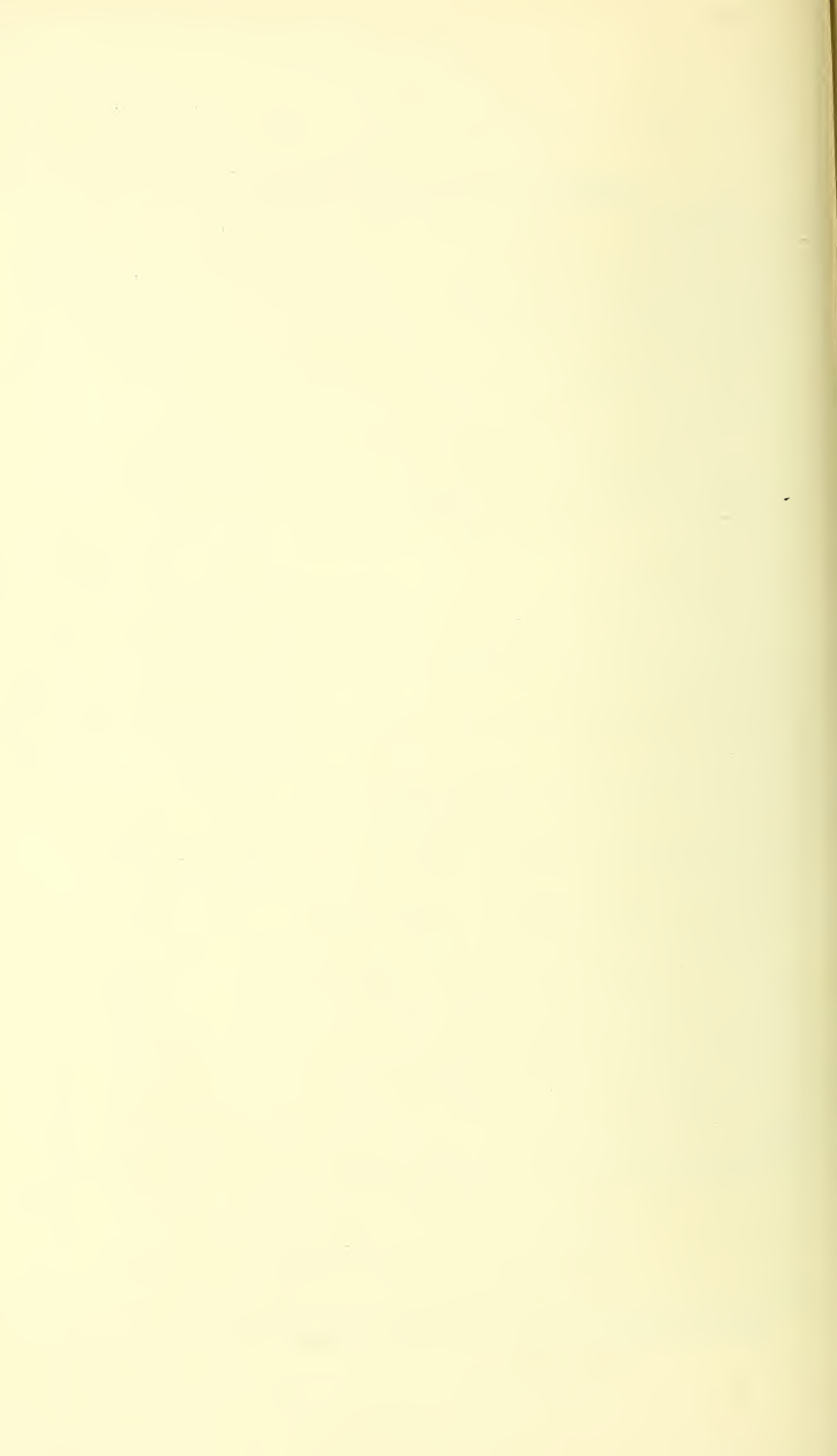
The total rate for the Borough (exclusive of water charges) was as follows:—

| | |
|--|----------------------------|
| Gross estimate | $13/8\frac{1}{2}$ in the £ |
| Deduct credit balances and contributions from Corporation trading undertakings | $1/7\frac{1}{2}$ in the £ |
| <hr/> | |
| Rate levied | $12/1$ in the £ |
| <hr/> | |

Below is an analysis of the cost to the Corporation of the various Health Services:—

| | In the £ | Approx. fraction of the total (gross) estimate for rates. |
|---|--------------------|--|
| General administration, port sanitary account, housing inspection, municipal laboratory, etc. | $2\frac{1}{2}$ d. | $1/60$ th |
| Infectious diseases hospital, disinfecting and ambulances | $2\frac{3}{4}$ d. | $1/60$ th |
| Tuberculosis (including Thingwall Sanatorium, Cheshire Joint Sanatorium and Leasowe Hospital) | $1\frac{3}{4}$ d. | $1/90$ th |
| Prevention and treatment of venereal diseases | $\frac{1}{4}$ d. | $1/600$ th |
| Meat, food and drugs inspection | $\frac{1}{2}$ d. | $1/300$ th |
| Maternity and child welfare | $\frac{3}{4}$ d. | $1/200$ th |
| Medical inspection and treatment of children of school age | 1d. | $1/160$ th |
| Mental deficiency | $\frac{1}{2}$ d. | $1/300$ th |
| Miscellaneous (care of blind persons*, housing schemes 1904-1909, etc.) | $\frac{1}{2}$ d. | $1/300$ th |
| <hr/> | | |
| Total | $10\frac{1}{2}$ d. | $1/15$ th |
| <hr/> | | |

*This does not include expenditure incurred by the Corporation in making direct payments towards the maintenance of blind persons under the Corporation's new scheme for the welfare of the Blind.



WEATHER.

METEOROLOGICAL STATION, THINGWALL SANATORIUM.

The instrumental equipment installed at Thingwall Sanatorium for the purpose of weather observation is as follows:—

- 1.—A Stevenson's screen, containing
 - (a) Dry and wet bulb thermometers
 - (b) Maximum and minimum thermometers.

These are placed four feet from the ground.

- 2.—A solar radiation thermometer (black bulb in vacuo), placed on a stand at a height of four feet, with the bulb directed south.
- 3.—A terrestrial radiation (grass minimum) thermometer. This is placed horizontally over short grass with its bulb freely exposed to the sky.
- 4.—Earth thermometers, with bulbs suspended at depths of one foot and four feet respectively, beneath the surface of the ground.
- 5.—A rain gauge (Snowdon pattern) with a receiving surface of five inches diameter. The rim of the gauge is one foot above the ground.
- 6.—A sunshine recorder (Campbell-Stokes pattern). This apparatus is mounted on the top of the thermometer screen. It is freely exposed to the sun's rays in all directions, and records the duration of bright sunshine.

Daily readings of these instruments are made by Mr. Davidson, and in addition observations are taken as to wind, cloud and other atmospheric phenomena. The advice given by Mr. Norman Edge, F.R.MET.SOC., in connection with the establishment and development of the station has been of great value.

The results obtained at the station are set out in the subjoined tables. Special reference may be made to the following facts:—

Temperature.—The mean shade temperature for the year was 49.1 degrees Fahrenheit. The highest temperature recorded in the shade was 74.2 degrees (on 12th July), and the lowest 20.2 degrees (on 15th December).

Humidity.—The mean relative humidity for the year was 84.4% of saturation. The highest monthly mean was 91.5% (March) and the lowest 72.6% (September).

Sunshine.—The average amount of bright sunshine per day was 3.75 hours. The sunniest day of the year was the 3rd of June, when 15.15 hours of bright sunshine were recorded. The sunniest months were July (7.46 hours daily average), June (6.02 hours), and May (4.98 hours).

Rain.—The total rainfall for the year amounted to 30.2 inches. Rain fell on 207 days. The heaviest fall in one day occurred on 13th June (0.95 inches). The month with the heaviest rainfall was June (4.36 inches), but the months with the greatest number of rainy days were January (25), November (23), and October (22).

TABLE M 1.

Air temperature.

| Month | Mean Temperature (i.e. average of max. and min.) | Mean | | Absolute Maximum | | Absolute Minimum | |
|---------------|---|-------|-------|------------------|----------|------------------|----------|
| | | Max. | Min. | Reading | Date | Reading | Date |
| January | 41.95 | 47.66 | 36.24 | 56.50 | 21/1/28 | 25.00 | 1/1/28 |
| February ... | 42.65 | 48.01 | 37.29 | 53.00 | 8/2/28 | 31.80 | 28/2/28 |
| March | 42.50 | 48.12 | 36.88 | 58.20 | 20/3/28 | 24.00 | 13/3/28 |
| April | 47.69 | 54.88 | 40.50 | 72.80 | 26/4/28 | 31.20 | 16/4/28 |
| May | 50.94 | 58.07 | 43.82 | 73.10 | 29/5/28 | 37.30 | 8/5/28 |
| June..... | 54.49 | 61.23 | 47.76 | 69.20 | 3/6/28 | 41.80 | 21/6/28 |
| July | 58.93 | 65.14 | 52.72 | 74.20 | 12/7/28 | 47.10 | 4/7/28 |
| August | 59.11 | 65.87 | 52.36 | 72.80 | 11/8/28 | 46.30 | 31/8/28 |
| September ... | 54.77 | 61.73 | 47.81 | 73.70 | 5/9/28 | 37.70 | 30/9/28 |
| October | 51.27 | 57.50 | 45.04 | 64.40 | 8/10/28 | 34.90 | 1/10/28 |
| November .. | 45.81 | 50.94 | 40.69 | 61.00 | 12/11/28 | 27.00 | 4/11/28 |
| December .. | 39.56 | 44.33 | 34.79 | 55.20 | 25/12/28 | 20.20 | 15/12/28 |
| Means ... | 49.14 | 55.29 | 42.99 | 65.34 | — | 33.70 | — |

TABLE M 2.

Solar and terrestrial radiation.

| Month | Daily Maximum | | | Grass Temperature | | |
|---------------|---------------|---------|---------|-------------------|---------|----------|
| | Mean | Extreme | | Mean | Extreme | |
| | | Reading | Date | | Reading | Date |
| January | 67.55 | 90.00 | 24/1/28 | 31.13 | 22.20 | 1/1/28 |
| February..... | 79.09 | 107.00 | 15/2/28 | 33.54 | 22.60 | 28/2/28 |
| March | 81.64 | 107.00 | 18/3/28 | 23.36 | 21.30 | 14/3/28 |
| April | 101.53 | 121.10 | 26/4/28 | 35.60 | 24.00 | 22/4/28 |
| May | 106.40 | 126.00 | 29/5/28 | 41.80 | 28.70 | 9/5/28 |
| June | 103.27 | 129.60 | 6/6/28 | 44.98 | 36.40 | 3/6/28 |
| July | 120.56 | 139.00 | 12/7/28 | 49.31 | 40.80 | 30/7/28 |
| August | 115.35 | 131.00 | 10/8/28 | 48.22 | 41.80 | 4/8/28 |
| September ... | 106.87 | 129.00 | 4/9/28 | 43.72 | 30.30 | 30/9/28 |
| October | 92.63 | 109.80 | 8/10/28 | 40.73 | 28.20 | 1/10/28 |
| November ... | 73.13 | 92.00 | 2/11/28 | 36.38 | 23.00 | 9/11/28 |
| December .. | 58.69 | 85.40 | 1/12/28 | 30.46 | 17.60 | 15/12/28 |
| Means .. | 92.23 | 113.91 | — | 38.27 | 28.08 | — |

TABLE M 3.

Air humidity at 9 a.m.

| Month | Monthly Means | | | | Relative Humidity at 9 a.m. | |
|---------------|---------------|----------|-----------|-------------------|--------------------------------|-------|
| | Dry Bulb | Wet Bulb | Dew Point | Relative Humidity | Greatest | Least |
| January | 41.69 | 40.35 | 38.60 | 88.88 | 100.00 | 72.00 |
| February..... | 41.78 | 40.67 | 39.22 | 90.67 | 100.00 | 73.10 |
| March | 43.50 | 42.48 | 41.15 | 91.49 | 100.00 | 76.00 |
| April | 48.05 | 44.70 | 41.01 | 78.21 | 97.00 | 47.00 |
| May | 51.87 | 50.34 | 48.66 | 78.49 | 98.00 | 56.10 |
| June | 56.00 | 52.90 | 50.42 | 80.98 | 99.00 | 52.80 |
| July | 62.48 | 57.73 | 54.33 | 83.54 | 100.00 | 71.90 |
| August | 60.29 | 57.66 | 55.44 | 85.09 | 99.00 | 71.70 |
| September .. | 55.07 | 53.88 | 52.57 | 72.58 | 99.00 | 66.80 |
| October | 50.89 | 48.61 | 46.11 | 84.19 | 98.00 | 54.50 |
| November ... | 45.78 | 44.18 | 42.42 | 87.44 | 100.00 | 73.00 |
| December ... | 38.84 | 37.88 | 36.44 | 91.21 | 98.00 | 71.00 |
| Means ... | 49.69 | 47.61 | 45.53 | 84.39 | 99.00 | 65.50 |

TABLE M 4.

Sunshine.

| Month | Average bright sunshine per day (hours) | Maximum sunshine in one day | | Number of sunless days |
|-----------------|---|--------------------------------|---------|---------------------------------|
| | | Amount | Date | |
| January | 1.99 | 6.40 | 19/1/28 | 10 |
| February | 2.66 | 8.50 | 21/2/28 | 5 |
| March | 2.37 | 8.50 | 28/3/28 | 6 |
| April | 4.45 | 10.80 | 19/4/28 | 3 |
| May | 4.98 | 13.90 | 10/5/28 | 2 |
| June | 6.02 | 15.15 | 3/6/28 | 4 |
| July | 7.46 | 15.10 | 14/7/28 | 1 |
| August | 4.73 | 12.00 | 30/8/28 | 4 |
| September | 4.99 | 10.40 | 19/9/28 | 4 |
| October | 3.25 | 8.00 | 1/10/28 | 5 |
| November | 1.39 | 6.50 | 9 11/28 | 10 |
| December | 0.73 | 5.50 | 8/12/28 | 17 |
| Year 1928 | 3.75 | — | — | 71 |

TABLE M 5.

Rainfall.

| Month | Total in inches | Maximum fall in one day | | Number of rainy days |
|-----------------|-----------------|-------------------------|----------|----------------------|
| | | Amount | Date | |
| January..... | 3.88 | .47 | 23/1/28 | 25 |
| February | 2.25 | .46 | 4/2/28 | 15 |
| March | 1.19 | .20 | 30/3/28 | 18 |
| April | 1.02 | .27 | 11/4/28 | 13 |
| May | 1.54 | .45 | 19/5/28 | 11 |
| June | 4.36 | .95 | 13/6/28 | 16 |
| July | 1.96 | .53 | 4/7/28 | 13 |
| August ... | 2.67 | .40 | 11/8/28 | 17 |
| September | 2.06 | .51 | 20/9/28 | 15 |
| October .. | 3.65 | .65 | 10/10/28 | 22 |
| November ... | 3.62 | .60 | 16/11/28 | 23 |
| December | 2.02 | .25 | 24/12/28 | 19 |
| Year 1928 | 30.22 | — | — | 207 |

BIDSTON OBSERVATORY.

Information kindly supplied from Bidston Observatory is set out in Table M 6. The mean barometer readings for the various months are given below:—

| | |
|-----------------|--------|
| January | 29.770 |
| February | 29.997 |
| March | 29.703 |
| April | 29.785 |
| May | 29.960 |
| June | 29.879 |
| July | 30.061 |
| August | 29.884 |
| September | 30.119 |
| October | 29.760 |
| November | 29.720 |
| December | 30.009 |

The mean barometer reading for the whole year was 29.887 inches, as compared with a mean of 29.919 for the past 62 years.

TABLE M 6.
Barometer readings, cloud and wind.

| Weeks | Barometer means reduced to sea level and to 32°F | Average percentage of cloud to clear sky. | Mean hourly horizontal motion of air in miles | Percentage of time wind blew from S., SW., W. and NW |
|------------|--|---|---|---|
| 1..... | 29.921 | 78.57 | 24.98 | 87.50 |
| 2..... | 29.651 | 58.57 | 27.21 | 97.61 |
| 3..... | 29.762 | 61.42 | 19.84 | 67.73 |
| 4..... | 29.839 | 64.28 | 21.92 | 88.09 |
| 5..... | 29.639 | 77.14 | 23.42 | 91.07 |
| 6..... | 29.798 | All instruments out of order | 26.67 | 95.83 |
| 7..... | | | | |
| 8..... | 30.401 | 71.42 | 12.95 | 30.35 |
| 9..... | 30.050 | 54.28 | 13.58 | 7.73 |
| 10..... | 30.072 | 68.57 | 8.20 | 22.02 |
| 11..... | 30.091 | 80.00 | 14.58 | 13.69 |
| 12..... | 29.444 | 92.85 | 18.82 | 20.23 |
| 13..... | 29.358 | 71.57 | 16.10 | 69.64 |
| 1st Qr. | 29.835 | 72.15 | 19.03 | 57.62 |
| 14..... | 29.714 | 65.71 | 12.91 | 69.04 |
| 15..... | 29.567 | 88.57 | 16.61 | 13.09 |
| 16..... | 29.901 | 62.85 | 18.20 | 55.35 |
| 17..... | 29.936 | 80.00 | 10.55 | 36.30 |
| 18..... | 29.818 | 68.57 | 11.74 | 17.32 |
| 19..... | 30.030 | 55.71 | 10.72 | 65.50 |
| 20..... | 29.685 | 84.28 | 14.57 | 69.04 |
| 21..... | 30.066 | 77.14 | 9.65 | 27.97 |
| 22..... | 30.102 | 60.00 | 14.04 | 5.95 |
| 23..... | 29.696 | 74.28 | 9.41 | 23.81 |
| 24..... | 29.936 | 74.28 | 18.41 | 70.23 |
| 25..... | 29.912 | 75.71 | 15.67 | 85.71 |
| 26..... | 29.874 | 77.14 | 18.41 | 82.14 |
| 2nd Qr. | 29.864 | 72.63 | 13.91 | 47.57 |
| 27..... | 29.943 | 68.57 | 15.44 | 97.02 |
| 28..... | 30.151 | 48.57 | 15.14 | 105.95 |
| 29..... | 30.294 | 58.57 | 15.64 | 94.04 |
| 30..... | 29.957 | 88.57 | 14.65 | 88.69 |
| 31..... | 29.973 | 75.71 | 9.74 | 50.00 |
| 32..... | 30.032 | 72.85 | 12.70 | 71.42 |
| 33..... | 29.827 | 84.28 | 16.05 | 86.90 |
| 34..... | 29.713 | 64.28 | 15.88 | 72.02 |
| 35..... | 29.884 | 68.57 | 8.70 | 73.80 |
| 36..... | 30.005 | 57.14 | 12.41 | 61.30 |
| 37..... | 30.232 | 65.71 | 10.60 | 61.90 |
| 38..... | 30.313 | 78.57 | 10.17 | 66.66 |
| 39..... | 29.983 | 72.85 | 9.78 | 19.04 |
| 3rd Qr. | 30.023 | 69.55 | 12.90 | 72.98 |
| 40..... | 30.136 | 52.85 | 12.72 | 43.45 |
| 41..... | 29.830 | 77.14 | 10.74 | 32.73 |
| 42..... | 29.764 | 70.00 | 15.72 | 64.29 |
| 43..... | 29.424 | 70.00 | Instrument out of order | |
| 44..... | 29.765 | 65.71 | | |
| 45..... | 29.630 | 72.85 | | |
| 46..... | 29.468 | 77.14 | | |
| 47..... | 29.547 | 80.00 | | |
| 48..... | 29.953 | 72.85 | | |
| 49..... | 30.187 | 65.71 | | |
| 50..... | 29.753 | 85.71 | | |
| 51..... | 30.246 | 75.71 | | |
| 52..... | 29.903 | 80.00 | | |
| 4th Qr. | 29.815 | 72.74 | 13.06 | 46.82 |
| Year | 29.884 | 71.76 | 14.72 | 56.24 |

POPULATION, BIRTHS, AND DEATHS.

POPULATION.

Population.—The population of the Borough as recorded at the time of the 1921 census was 145,592.

The extension of the Borough boundaries took effect as from 1st April, 1928. The Registrar General's estimate of the population of the extended Borough as at mid-year, 1928, was 159,200.

For the purpose of the calculation of annual birth and death rates, however, the Registrar General suggests that an adjusted figure, namely, 157,900 should be used; in view of the fact that the added districts did not come within the area of the Borough until the end of the first quarter of the year. The rates in question have accordingly been calculated on this figure, and will be found below.

BIRTHS.

Births registered during 1928, and birth-rate.—During the year 2,923 births belonging to the Borough were *registered*. (This total includes 63 Birkenhead births registered in other areas and transferred to Birkenhead, and excludes 108 births belonging to other areas which occurred in Birkenhead and were transferred to the areas concerned. Among the latter are numerous births which occurred at the Birkenhead Maternity Hospital and the Birkenhead Infirmary.)

This corresponds to a birth-rate of 18.5 per 1,000 of the population.

Birth-rate in recent years.—The birth-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

| | | |
|------------|------|-----------|
| 1911 | 28.4 | per 1,000 |
| 1912 | 28.2 | „ |
| 1913 | 28.7 | „ |
| 1914 | 27.3 | „ |
| 1915 | 27.4 | „ |
| 1916 | 26.9 | „ |
| 1917 | 22.4 | „ |
| 1918 | 21.1 | „ |
| 1919 | 22.5 | „ |
| 1920 | 27.7 | „ |
| 1921 | 25.8 | „ |
| 1922 | 23.1 | „ |
| 1923 | 21.4 | „ |
| 1924 | 21.1 | „ |
| 1925 | 20.5 | „ |
| 1926 | 20.4 | „ |
| 1927 | 18.2 | „ |
| 1928 | 18.5 | „ |

Comparison of birth-rate with rates for country generally—

| | Per 1,000 of population. |
|---|--------------------------|
| England and Wales | 16.7 |
| 107 County Boroughs and Great Towns (including London) | 16.9 |
| 156 Other Towns (1921 adjusted populations, 20,000-50,000) | 16.6 |
| London | 15.9 |
| Birkenhead | 18.5 |

Sex-distribution of births.—Of the 2,923 births, 1,523 were males and 1,400 females; a proportion of 1,088 : 1,000.

Legitimacy.—Of the 2,923 births registered, 122 were illegitimate; a percentage of 4.1.

Births notified during 1928.—During the year 3,037 births were notified in the Borough under the Notification of Births Acts, 1907 and 1915. Of these 146 were still-births, leaving a total of 2,891 live births. This total includes births which occurred in the Birkenhead Maternity Hospital, the Birkenhead Infirmary, and the Birkenhead General Hospital, many of which were transferable to other areas.

The following is an analysis of the above births:—

Births in Public Institutions:—

| | | |
|--|------|-------------------|
| Maternity Hospital | 303 | (19 still-births) |
| Infirmary | 234 | (20 „) |
| General Hospital | 7 | (2 „) |
| Other births (including those in nursing homes):— | | |
| Notified by doctors | 175 | (11 still-births) |
| Notified by midwives | 2169 | (94 „) |
| Notified by parents | 3 | (— „) |
| | 2891 | (146 „) |

Un-notified births.—The Registrars reported 56 cases of un-notified births. 16 of these were attended by medical practitioners, 31 by both certified midwives and doctors, 7 by the Maternity Hospital staff, 1 by the Infirmary staff, and 1 by the General Hospital staff.

DEATHS.

Death-rate.—1,937 deaths occurred during the year; the total figure includes 134 deaths of Birkenhead residents which occurred outside the Borough, but excludes 186 deaths of non-residents which occurred in the area. This gives a death-rate of 12.3 per 1,000.

Deaths in recent years.—The death-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

| | |
|------------|----------------|
| 1911 | 16.0 per 1,000 |
| 1912 | 14.7 " |
| 1913 | 14.9 " |
| 1914 | 15.6 " |
| 1915 | 15.6 " |
| 1916 | 14.2 " |
| 1917 | 13.3 " |
| 1918 | 17.6 " |
| 1919 | 13.7 " |
| 1920 | 13.3 " |
| 1921 | 11.6 " |
| 1922 | 13.6 " |
| 1923 | 11.0 " |
| 1924 | 11.9 " |
| 1925 | 12.1 " |
| 1926 | 11.1 " |
| 1927 | 12.6 " |
| 1928 | 12.3 " |

Seasonal deaths.—The following gives the deaths for each quarter of the years 1927 and 1928.

| | No. of deaths | |
|---------------------|---------------|------|
| | 1927 | 1928 |
| First quarter..... | 683 | 599 |
| Second quarter..... | 449 | 469 |
| Third quarter..... | 383 | 401 |
| Fourth quarter..... | 482 | 468 |
| Totals | 1997 | 1937 |

Sex-distribution of deaths.—Of the total deaths 1,029 were males and 908 females, a proportion of 1,133 : 1,000.

Uncertified deaths.—In 1928, there were 2 uncertified deaths belonging to the area.

Coroners' inquests.—Coroner's inquests were held regarding 146 deaths—that is, in 7.5 per cent. of the total deaths during the year.

The Coroners' (Amendment) Act, 1926.—This Act came into force on 1st May, 1927. During the year 36 deaths (1.8 per cent. of the total deaths during the year) were registered without the Coroner holding an inquest.

Causes of death.—From the beginning of 1927 the classification of causes of death previously employed during the years 1920-1926 was abandoned, and the recognised classification contained in the detailed international list was adopted. An analysis on this basis will be found in Tables P 1, P 2, and P 3.

Table P 1 (pages 12 to 23) shows the causes of death in detail, sub-classified according to age.

Table P 2 (pages 24 to 25) is a short list of deaths, prepared by the Registrar-General, sub-classified according to sex and age.

Table P 3 (pages 26 to 27) is a condensed form of Table P 1, sub-classified according to wards.

Infantile mortality.—There were 234 deaths of infants under 1 year old. This corresponds to an infantile mortality rate of 80 per 1,000 births.

There were 14 deaths in illegitimate infants under 1 year old; giving an illegitimate mortality rate of 114 per 1,000.

The causes of infant deaths, and the ages at which death occurred, are shown in Table P 4 (page 28).

The corresponding rates for each year since 1911 are given below:—

| | |
|------------|-----|
| 1911 | 136 |
| 1912 | 98 |
| 1913 | 117 |
| 1914 | 122 |
| 1915 | 122 |
| 1916 | 105 |
| 1917 | 95 |
| 1918 | 110 |
| 1919 | 102 |
| 1920 | 102 |
| 1921 | 75 |
| 1922 | 95 |
| 1923 | 62 |
| 1924 | 91 |
| 1925 | 92 |
| 1926 | 85 |
| 1927 | 95 |
| 1928 | 80 |

The main causes of infant deaths during the past two years are shown below:—

| | No. in 1927 | No. in 1928 |
|-----------------------------------|----------------|----------------|
| (a) Pneumonia (all forms) | 55 | 53 |
| Bronchitis | 12 | 17 |
| Whooping cough | 7 | 9 |
| Measles | 1 | 3 |
| (b) Diarrhoea and enteritis | 59 | 27 |
| Premature birth | 45 | 49 |
| (c) All other causes | 94 | 76 |
| | <hr/> 273 | <hr/> 234 |

Deaths from tuberculosis.—Tuberculosis was responsible for 9.9 per cent. of all the deaths recorded in the Borough in 1928. The deaths from the disease were as follows:—

| | |
|---|-----------|
| Deaths from tuberculosis of the lungs | 150 |
| Deaths from other forms of tuberculosis | 43 |
| Total | <hr/> 193 |

This gives a tuberculosis death-rate of 1.22 per 1,000 of the population.

Of the 150 deaths from respiratory tuberculosis during 1928, 136 occurred in individuals between 15 and 65 years old—that is, of a wage-earning age.

This subject is further dealt with in the “ Tuberculosis ” section of this report.

Deaths from epidemic diseases.—The seven “ principal epidemic diseases ” caused 76 deaths, as follows:—

| | |
|---|----|
| Diarrhœa and enteritis (under 2 years) | 32 |
| Whooping cough | 19 |
| Measles | 16 |
| Scarlet fever | 1 |
| Diphtheria (including membranous croup) | 7 |
| “ Fever ” (enteric, typhus, and simple continued fever) | 1 |
| Smallpox | 0 |

This corresponds to a death-rate from all these diseases of 0.48 per 1,000 of the population.

Deaths from other notifiable infectious diseases.—Pneumonia caused, in its various forms, 226 deaths; puerperal fever caused 4; encephalitis lethargica caused 8; erysipelas caused 9; dysentery caused 1; malaria caused 1.

Deaths from cancer.—The following table shows the cancer death-rate in Birkenhead as compared with the country generally:—

| Year | BIRKENHEAD | | | ENGLAND AND WALES | |
|------|------------|--|--------------------------------|--------------------------------|-----|
| | Population | Number of deaths from cancer in Birkenhead | Rate per 100,000 population | Rate per 100,000 population | |
| 1901 | 111,377 | 91 | 81 | } | 87 |
| 1902 | 113,231 | 66 | 58 | | |
| 1903 | 115,117 | 78 | 68 | | |
| 1904 | 117,034 | 83 | 70 | | |
| 1905 | 118,982 | 94 | 79 | | |
| 1906 | 120,964 | 101 | 83 | } | 94 |
| 1907 | 122,978 | 90 | 73 | | |
| 1908 | 125,026 | 101 | 80 | | |
| 1909 | 127,108 | 91 | 71 | | |
| 1910 | 129,227 | 115 | 89 | | |
| 1911 | 131,377 | 114 | 86 | } | 105 |
| 1912 | 135,521 | 126 | 92 | | |
| 1913 | 135,740 | 107 | 70 | | |
| 1914 | 137,906 | 114 | 82 | | |
| 1915 | 140,291 | 121 | 85 | | |
| 1916 | 142,622 | 140 | 98 | } | 118 |
| 1917 | 144,993 | 144 | 99 | | |
| 1918 | 147,403 | 154 | 104 | | |
| 1919 | 149,853 | 181 | 121 | | |
| 1920 | 152,345 | 186 | 122 | | |
| 1921 | 147,800 | 186 | 125 | 121 | |
| 1922 | 149,200 | 172 | 115 | 123 | |
| 1923 | 151,400 | 179 | 118 | 127 | |
| 1924 | 154,100 | 179 | 116 | 130 | |
| 1925 | 155,500 | 199 | 129 | 133 | |
| 1926 | 158,000 | 204 | 129 | 136 | |
| 1927 | 158,500 | 206 | 130 | 137 | |
| 1928 | 159,200 | 229 | 145 | 142 | |

Comparison of Birkenhead death-rates with those for country generally.—In Table P 5 (page 29) Birkenhead rates are shewn together with those for the country generally. The latter are provisional figures kindly supplied by the Registrar-General. Non-civilians are included in the figures for England and Wales, but not for other areas.

[illegible]

[illegible]

TABLE P 1.—CONTINUED.

| Classi- fication No. | Causes of death | Ages at death | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---------------|---------------|-----|-----|-----|---------------|--------------|-----|-----|----------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|--|--|
| | | All ages | Under 1 year | | | | Under 5 years | | | | Over subjoined years | | | | | | | | | | | | | | |
| | | | & over months | | | | Tot1 | & over years | | | | Tot1 | | | | | | | | | | | | | |
| | | | 0 | 3 | 6 | 9 | | 1 | 2 | 3 | 4 | | 5 | 10 | 15 | 20 | 25 | 35 | 45 | 55 | 65 | 75 | 85 & up | | |
| 101 | Pneumonia (lobar or not otherwise defined)— A. Lobar pneumonia..... | 79 | ... | 1 | 2 | 1 | 4 | 1 | 1 | ... | ... | 6 | 2 | 1 | 4 | 3 | 5 | 16 | 9 | 14 | 13 | 5 | 1 | | |
| 102 | B. Pneumonia not otherwise defined..... Pleurisy— 1. Empyema..... 2. Other pleurisy..... | 32 | 3 | 4 | 4 | 3 | 14 | 4 | ... | ... | ... | 18 | ... | 1 | .. | 1 | ... | 3 | 2 | 2 | ... | 4 | 1 | | |
| 103 | Congestion and hæmorrhagic infarct of lung .. | 19 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | | |
| 104 | Gangrene of the lung .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | ... | 4 | 2 | 5 | 4 | ... | | |
| 105 | Asthma | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 5 | 2 | ... | 1 | ... | | |
| 106 | Pulmonary emphysema | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | | |
| 107 | Other diseases of the respiratory system— A. Chronic interstitial pneumonia, including occupational diseases of the lung..... B. Diseases of the mediastinum | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | | |
| ... | C. Other diseases included under 107 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | | |
| 108 | VI.—Diseases of the digestive system (108–127) Diseases of the buccal cavity and annexa— 1. Diseases of the teeth and gums..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | |
| ... | 2. Ludwig's angina | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | |
| 109 | 3. Other diseases included under 108 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | |
| ... | Diseases of the pharynx and tonsils— 1. Tonsillitis, adenoid vegetations..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | |
| 110 | 2. Other diseases included under 109 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | |
| 111 | Diseases of the œsophagus | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | |
| ... | Ulcer of the stomach or duodenum— A. Ulcer of the stomach | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | 1 | 1 | ... | ... | | |
| ... | B. Ulcer of the duodenum | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 2 | ... | ... | ... | | |
| 112 | Other diseases of the stomach— 1. Inflammation of the stomach..... | 13 | 2 | ... | ... | ... | 2 | 1 | 1 | ... | ... | 4 | ... | ... | ... | ... | 2 | 1 | 1 | 1 | 2 | 2 | ... | | |
| ... | 2. Other diseases included under 112 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | | |

TABLE P 1.—CONTINUED.

| Classi- fication No. | Causes of death | Ages at death | | | | | | | | | | | | | | | | | | | | |
|----------------------------|--|---------------|----|----|----|-------|---------------|----|----|----|-------|----------------------|----|----|----|----|----|----|----|----|----|------------|
| | | Under 1 year | | | | | Under 5 years | | | | | Over subjoined years | | | | | | | | | | |
| | | & over months | | | | | & over years | | | | | | | | | | | | | | | |
| | | 0 | 3 | 6 | 9 | Tot:1 | 1 | 2 | 3 | 4 | Tot:1 | 5 | 10 | 15 | 20 | 25 | 35 | 45 | 55 | 65 | 75 | 85 & up |
| 134 | Diseases of the urethra, urinary abscess, etc.— A. Stricture of the urethra | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 135 | B. Other diseases of the urethra, etc. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 136 | Diseases of the prostate | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. |
| 137 | Non-venereal diseases of the male genital organs Cysts, and other tumours of the ovary not returned as malignant | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 138 | Salpingitis and pelvic abscess in females— 1. Salpingitis | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. |
| 139 | 2. Pelvic abscess in females | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 140 | Tumours of the uterus not returned as malignant | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. |
| 141 | Non-puerperal uterine hemorrhage | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 142 | Other diseases of the female genital organs— 1. Other diseases of the uterus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2. Diseases of the other female genital organs not included under other headings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 143 | Non-puerperal disease of the breast | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | VIII.—The puerperal state (143-150). | | | | | | | | | | | | | | | | | | | | | |
| | Accidents of pregnancy— | | | | | | | | | | | | | | | | | | | | | |
| | A. Abortion | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | .. |
| | B. Ectopic gestation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | C. Other accidents of pregnancy | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. |
| 144 | Puerperal hemorrhage | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 1 | .. | .. | .. | .. | .. |
| 145 | Other accidents of childbirth | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 1 | .. | .. | .. | .. | .. |
| 146 | Puerperal sepsis | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | .. | .. | .. | .. |
| 147 | Puerperal phlegmasia alba dolens, embolism, and sudden death— | | | | | | | | | | | | | | | | | | | | | |
| | 1. Puerperal phlegmasia alba dolens not returned as malignant | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2. Puerperal embolism and sudden death | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 148 | Puerperal albuminuria and convulsions | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

[illegible]

TABLE P 1.—CONTINUED.

| Classi- fication No. | Causes of death | Ages at death | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|--|---------------|---------------|-----|-----|-----|-------------------------------|-----|-----|-----|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|-----|-----|--|
| | | All ages | Under 1 year | | | | Under 5 years & over years | | | | Over subjoined years | | | | | | | | | | | | | |
| | | | Tot'l | | | | Tot'l | | | | | | | | | | | | | | | | | |
| | | | & over months | | | | & over years | | | | | | | | | | | | | | | | | |
| | | | 0 | 3 | 6 | 9 | 1 | 2 | 3 | 4 | 5 | 10 | 15 | 20 | 25 | 35 | 45 | 55 | 65 | 75 | 85 & up | | | |
| 161 | Premature birth, injury at birth— | 49 | 49 | ... | ... | 49 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 1. Premature birth | 4 | 4 | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 162 | 2. Injury at birth | | | | | | | | | | | | | | | | | | | | | | | |
| | Other diseases peculiar to early infancy— | | | | | | | | | | | | | | | | | | | | | | | |
| | 1. Diseases of the umbilicus | 2 | 2 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 2. Atelectasis | 8 | 8 | ... | ... | 8 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 3. Other diseases included under 162 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 163 | Lack of care | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 164 | XIII.—Old age (164). | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 1. Senile dementia | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 2. Other forms of senile decay | 89 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | XIV.—External causes (165-203). | | | | | | | | | | | | | | | | | | | | | | | |
| | Suicide (165-174).— | | | | | | | | | | | | | | | | | | | | | | | |
| 165 | By solid or liquid poisons and corrosive | | | | | | | | | | | | | | | | | | | | | | | |
| 166 | substances | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 167 | By poisonous gas | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 168 | By hanging or strangulation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 169 | By drowning | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 170 | By firearms | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 171 | By cutting or piercing instruments | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 172 | By jumping from high place | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 173 | By crushing | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 174 | By other means | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | Violent deaths (175-196) excluding suicide and | | | | | | | | | | | | | | | | | | | | | | | |
| | homicide (201-203).— | | | | | | | | | | | | | | | | | | | | | | | |
| 175 | Food poisoning | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 176 | Poisoning by venomous animals | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 177 | Other acute accidental poisoning (not by gas) | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 178 | Conflagration | | | | | | | | | | | | | | | | | | | | | | | |

TABLE P 2.
Deaths: causes, sex, and ages.

| Causes of death | Sex | Allages | Age | | | | | | | | | |
|--|----------------|-------------|------------|----------|----------|----------|----------|------------|------------|------------|------------|--|
| | | | 0— | 1— | 2— | 5— | 15— | 25— | 45— | 65— | 75— | |
| All causes..... | Male Female | 1033 913 | 129 106 | 38 35 | 22 20 | 37 31 | 45 48 | 136 115 | 295 212 | 201 163 | 130 183 | |
| 1 Enteric fever | Male Female | 1 .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 .. | .. .. | .. .. | .. .. |  |
| 2 Smallpox | Male Female | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 3 Measles | Male Female | 9 9 | 2 2 | 4 4 | 2 3 | 1 .. | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 4 Scarlet fever | Male Female | .. 1 | .. 1 | .. 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 5 Whooping Cough | Male Female | 5 15 | 3 6 | 1 7 | 1 1 | 1 3 | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 6 Diphtheria ... | Male Female | 5 1 | 1 .. | .. .. | 1 .. | 1 1 | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 7 Influenza | Male Female | 15 20 | .. 1 | .. 1 | 1 .. | 1 1 | 2 .. | 3 1 | 7 6 | 2 5 | 1 4 | |
| 8 Encephalitis lethargica | Male Female | 3 5 | .. .. | .. .. | .. .. | .. .. | .. .. | .. 2 | .. 2 | .. 1 | .. .. |  |
| 9 Meningococcal meningitis | Male Female | .. 1 | .. .. | .. 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. |  |
| 10 Tuberculosis of respiratory system..... | Male Female | 84 66 | .. .. | 1 1 | 1 1 | 3 4 | 13 22 | 28 32 | 31 5 | 7 .. | 1 .. | |
| 11 Other tuberculous diseases | Male Female | 28 16 | 5 2 | 6 3 | 3 2 | 7 6 | 1 .. | 4 2 | 2 1 | .. .. | .. 7 | |
| 12 Cancer, malignant disease | Male Female | 110 124 | .. .. | .. .. | .. .. | .. .. | 1 1 | 4 8 | 56 54 | 42 36 | 25 .. | |
| 13 Rheumatic fever | Male Female | 4 10 | .. .. | .. .. | .. .. | 2 2 | .. 2 | 2 4 | .. 1 | 1 3 | .. 1 | |
| 14 Diabetes | Male Female | 11 3 | .. .. | .. .. | .. .. | .. .. | .. .. | 3 3 | 4 4 | .. .. | .. .. |  |
| 15 Cerebral hæmorrhage, &c. | Male Female | 43 40 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 2 | 15 15 | 13 14 | 14 9 | |
| 16 Heart disease | Male Female | 147 162 | .. .. | .. .. | .. .. | 1 .. | 4 5 | 9 20 | 40 42 | 56 41 | 37 54 | |

| | Male | Female | 31 | 10 | 73 | 42 | 68 | 93 | 251 | 507 | 364 | 313 |
|--|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 18 Bronchitis | 37 | 44 | 7 | 29 | 13 | 5 | 4 | 7 | 24 | 34 | 7 | 19 |
| 19 Pneumonia (all forms) | 140 | 83 | 26 | 12 | 2 | 5 | 5 | 2 | 5 | 13 | 16 | 8 |
| 20 Other respiratory diseases | 6 | 8 | ... | ... | ... | 1 | ... | ... | 1 | 2 | 2 | 1 |
| 21 Ulcer of stomach or duodenum | 15 | 3 | ... | ... | ... | ... | ... | 1 | 6 | 5 | ... | 1 |
| 22 Diarrhoea, &c. | 22 | 12 | 16 | 8 | 1 | ... | ... | ... | 1 | 1 | ... | 1 |
| 23 Appendicitis and typhlitis | 9 | 7 | ... | ... | ... | ... | 1 | 5 | 2 | 1 | 1 | ... |
| 24 Cirrhosis of liver | 8 | 1 | ... | ... | ... | ... | ... | 3 | 2 | 2 | 2 | 2 |
| 25 Acute and chronic nephritis | 27 | 31 | ... | ... | ... | ... | ... | ... | 5 | 9 | 8 | 5 |
| 26 Puerperal sepsis..... | 9 | ... | ... | ... | ... | ... | ... | 1 | 6 | 12 | 6 | 6 |
| 27 Other accidents and diseases of pregnancy and parturition | 6 | 44 | 41 | 41 | ... | ... | ... | 1 | 4 | 1 | ... | ... |
| 28 Congenital debility and malformation, premature birth | 15 | 15 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... |
| 29 Suicide | 6 | 46 | 1 | ... | ... | ... | ... | ... | 6 | 7 | ... | 1 |
| 30 Other deaths from violence | 20 | 139 | 21 | 7 | 1 | 5 | 4 | 6 | 12 | 11 | 1 | 3 |
| 31 Other defined diseases | 118 | 1 | 14 | 3 | 3 | 5 | 6 | 5 | 17 | 41 | 16 | 23 |
| 32 Causes ill-defined or unknown..... | 1 | ... | ... | ... | ... | ... | 3 | 7 | 16 | 27 | 14 | 29 |
| Totals | 1946 | 235 | 73 | 42 | 68 | 93 | 251 | 507 | 364 | 313 | ... | ... |

NOTE.—The above Table has been compiled by the Registrar General from statistics in his office. He states that the figures do not relate to deaths *occurring* but to deaths *registered* during the calendar year as belonging to the area. Further, the classification of some deaths in respect of which the certifying medical practitioners have given indefinite causes is modified in the light of fuller information obtained from them in response to special enquiries. Thus, when comparing the number of deaths classified locally to the various headings with the numbers classified to the same headings by the Registrar General, this possible source of discrepancy should be borne in mind.

The above Table cannot, therefore, be closely checked against Tables P 1 and P 3 which have been compiled in my department.

TABLE P 3.

Deaths: causes and wards.

| Causes of death | Deaths in or belonging to wards at all ages. | | | | | | | | | | | | Total deaths in Public Institutions in the district |
|---|--|--------|------------|-----------|-----------|--------|---------|---------|--------|-----------|---------|---------|---|
| | Whole Borough | Argyle | (Tranmere) | Cleveland | Claughton | Oulton | Clifton | Egerton | Mersey | Bebington | Prenton | Bidston | |
| | | | | | | | | | | | | | |
| All causes..... | 1927 | 272 | 339 | 399 | 108 | 42 | 270 | 254 | 108 | 54 | 23 | 18 | 898 |
| 1 Enteric fever .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| 2 Smallpox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 3 Measles | 16 | 2 | 4 | 6 | 1 | .. | 2 | 1 | .. | .. | .. | .. | 11 |
| 4 Scarlet fever | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| 5 Whooping cough | 19 | 3 | 4 | 7 | 1 | .. | 1 | 2 | .. | 1 | .. | .. | 3 |
| 6 Diphtheria.. | 7 | .. | 2 | .. | 1 | .. | .. | 3 | .. | 1 | .. | .. | 6 |
| 7 Influenza | 35 | 3 | 10 | 4 | .. | 3 | 2 | 8 | 4 | .. | 1 | .. | 1 |
| 8 Encephalitis lethargica | 8 | 2 | 1 | 1 | 1 | 1 | .. | 2 | .. | .. | .. | .. | 6 |
| 9 Meningococcal meningitis | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. |
| 10 Tuberculosis of respiratory system | 150 | 19 | 30 | 39 | 2 | .. | 18 | 19 | 12 | 4 | 5 | 2 | 78 |
| 11 Other tuberculous diseases | 43 | 5 | 10 | 8 | .. | .. | 5 | 6 | 2 | 5 | 1 | 1 | 22 |
| 12 Cancer, malignant disease | 229 | 33 | 43 | 45 | 23 | 2 | 37 | 25 | 12 | 6 | 1 | 2 | 100 |
| 13 Rheumatic fever | 20 | 3 | 1 | 4 | 2 | .. | 5 | 4 | 1 | .. | .. | .. | 11 |

| | | | | | | | | | | | | | | |
|--------|---|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 15 | Cerebral hæmorrhage, &c. | 89 | 8 | 15 | 12 | 6 | 4 | 15 | 21 | 5 | 3 | ... | ... | 41 |
| 16 | Heart disease | 187 | 22 | 30 | 32 | 16 | 5 | 40 | 26 | 9 | 5 | 2 | ... | 70 |
| 17 | Arterio-sclerosis | 87 | 9 | 16 | 17 | 7 | 3 | 12 | 11 | 9 | 3 | ... | ... | 51 |
| 18 | Bronchitis | 114 | 21 | 35 | 24 | 5 | 2 | 12 | 9 | 3 | 2 | 1 | .. | 37 |
| 19 | Pneumonia | 226 | 38 | 44 | 65 | 7 | 2 | 25 | 21 | 13 | 4 | 2 | 5 | 105 |
| 20 | Other respiratory diseases | 37 | 8 | 6 | 5 | 2 | 1 | 7 | 5 | 2 | ... | 1 | ... | 16 |
| 21 | Ulcer of stomach or duodenum | 12 | 3 | 1 | 1 | ... | 1 | 1 | 4 | 1 | ... | ... | ... | ... |
| 22 | Diarrhea, &c. | 35 | 6 | 10 | 7 | 1 | ... | 8 | ... | 1 | .. | ... | 2 | 23 |
| 23 | Appendicitis and typhlitis | 16 | 2 | 1 | 2 | 3 | ... | 4 | 2 | 1 | 1 | ... | ... | 13 |
| 24 | Cirrhosis of liver | 12 | 3 | 1 | 2 | 2 | .. | ... | ... | 2 | 2 | ... | ... | 3 |
| 25 | Acute and chronic nephritis | 63 | 8 | 12 | 9 | 2 | 3 | 6 | 14 | 2 | 4 | 3 | ... | 19 |
| 26 | Puerperal sepsis | 4 | ... | ... | 1 | 1 | ... | 1 | 1 | ... | ... | ... | ... | 4 |
| 27 | Other accidents and diseases of pregnancy and parturition | 12 | 1 | 4 | 3 | ... | ... | ... | 3 | 1 | ... | ... | ... | 9 |
| 28 | Congenital debility and malformation, premature birth | 82 | 11 | 17 | 23 | 2 | 1 | 10 | 7 | 4 | 3 | ... | 4 | 22 |
| 29 | Suicide | 20 | 1 | 6 | 4 | ... | 2 | 3 | 3 | ... | 1 | ... | ... | 7 |
| 30 | Other deaths from violence | 68 | 9 | 11 | 17 | 3 | ... | 11 | 8 | 7 | 1 | .. | 1 | 59 |
| 31 | Other defined diseases | 328 | 51 | 70 | 56 | 20 | 9 | 44 | 49 | 15 | 8 | 5 | 1 | 164 |
| 32 | Causes ill-defined or unknown | 3 | .. | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | .. |
| Totals | | 1937 | 272 | 389 | 399 | 108 | 42 | 270 | 254 | 108 | 54 | 23 | 18 | 898 |

NOTE.—All deaths which occurred in institutions are classified in the ward in which the patient resided.

TABLE P 4.

Infant deaths: causes and ages.

| Causes of death | Under 1 week | 1-2 weeks | 2-3 weeks | 3-4 weeks | Total under 4 weeks | Over 4 weeks & under 3 months | 3-6 months | 6-9 months | 9-12 months | Total under 1 year |
|---|--------------|-----------|-----------|-----------|---------------------|-------------------------------|------------|------------|-------------|--------------------|
| All causes..... | 64 | 13 | 14 | 7 | 98 | 44 | 35 | 30 | 27 | 234 |
| Smallpox .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chickenpox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Measles | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | 3 |
| Scarlet fever..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Whooping cough..... | .. | .. | .. | 1 | 1 | 2 | 4 | .. | 2 | 9 |
| Diphtheria | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Influenza .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tuberculosis of central nervous system | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | 4 |
| Tuberculosis of intestines and peritoneum | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Meningitis (not tuberculous) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Convulsions | 1 | 1 | 1 | .. | 3 | 2 | .. | .. | 1 | 6 |
| Bronchitis (all forms)..... | .. | .. | 1 | .. | 1 | 6 | 3 | 6 | 1 | 17 |
| Pneumonia (all forms) | .. | 1 | 2 | .. | 3 | 11 | 14 | 14 | 11 | 53 |
| Diarrhoea and enteritis | .. | 1 | .. | 4 | 5 | 5 | 8 | 6 | 3 | 27 |
| Gastritis | .. | .. | .. | 1 | 1 | 1 | .. | .. | .. | 2 |
| Syphilis | .. | .. | 1 | .. | 1 | 2 | .. | .. | 3 | 6 |
| Rickets .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Injury at birth | 4 | .. | .. | .. | 4 | .. | .. | .. | .. | 4 |
| Atelectasis | 8 | .. | .. | .. | 8 | .. | .. | .. | .. | 8 |
| Congenital malformations..... | 4 | 1 | 3 | .. | 8 | 4 | 3 | 1 | 1 | 17 |
| Premature birth | 39 | 4 | 3 | .. | 46 | 3 | .. | .. | .. | 49 |
| Atrophy, debility and marasmus | 2 | 3 | 2 | 1 | 8 | 1 | .. | .. | .. | 9 |
| Other causes | 6 | 2 | 1 | .. | 9 | 5 | 1 | 1 | 1 | 17 |
| Totals.. | 64 | 13 | 14 | 7 | 98 | 44 | 35 | 30 | 27 | 234 |

Net births in the year—

Legitimate 2801

Illegitimate 122

Net deaths in the year—

Legitimate infants 220

Illegitimate infants ... 14

TABLE P 5.
Death-rates: comparison with rest of country.

| | Annual death rate per 1000 civilian population | | | | | | | | Rate per 1000 births | | Percentage of total deaths | | | | |
|---|--|---------------|----------|---------|---------------|----------------|------------|-----------|----------------------|---|----------------------------|--|---------------|--|------------------------------|
| | All causes | Enteric fever | Smallpox | Measles | Scarlet fever | Whooping cough | Diphtheria | Influenza | Violence | Diarrhoea and enteritis (under 2 years) | Total deaths under 1 year | Certified by Registered Medical Practitioner | Inquest cases | Certified by Coroner after P.M. No inquest | Uncertified* causes of death |
| England and Wales | 11.7 | 0.01 | 0.00 | 0.11 | 0.01 | 0.07 | 0.06 | 0.19 | 0.53 | 7.0 | 65 | 90.9 | 6.7 | 1.4 | 1.0 |
| 107 County Boroughs and Great Towns including London (census population exceeding 50,000) | 11.6 | 0.01 | 0.00 | 0.15 | 0.02 | 0.09 | 0.09 | 0.17 | 0.48 | 9.6 | 70 | 91.0 | 6.5 | 1.9 | 0.6 |
| 156 Smaller Towns (1921 adjusted populations 20,000 to 50,000) | 10.6 | 0.01 | 0.00 | 0.08 | 0.01 | 0.06 | 0.08 | 0.21 | 0.41 | 4.8 | 60 | 92.6 | 5.7 | 0.5 | 1.2 |
| London | 11.6 | 0.01 | 0.00 | 0.30 | 0.02 | 0.09 | 0.09 | 0.13 | 0.55 | 10.2 | 67 | 88.7 | 7.6 | 3.7 | 0.0 |
| Birkenhead..... | 12.3 | 0.006 | — | 0.10 | 0.006 | 0.12 | 0.05 | 0.22 | 0.56 | 10.9 | 80 | 90.5 | 7.5 | 1.9 | 0.1 |

LOCAL INDUSTRIES.**OCCUPATIONS.**

The staple industries of the district are shipbuilding, ship-repairing and engineering.

Occupations of males and females aged 12 years and over.—A statement setting out the occupations of males and females aged 12 years and over at the time of the 1921 census was given in my annual report for 1923.

UNEMPLOYMENT.

The Minister of Health requests Medical Officers to give in their annual reports an indication of the extent of unemployment and of the amount of poor law relief in their areas.

The returns of unemployment for each month of the year are shown below:—

TABLE O 1.
Unemployment during 1928.

| Month | Live register | Increase or decrease in live register | Applicants placed | |
|-----------------|---------------|---------------------------------------|-------------------|--------------------|
| | | | Locally | In other districts |
| January | 4853 | Dec. 22 | 472 | 27 |
| February | 5004 | Inc. 151 | 357 | 20 |
| March | 4765 | Dec. 239 | 526 | 36 |
| April | 4361 | Dec. 404 | 298 | 45 |
| May | 4249 | Dec. 112 | 536 | 27 |
| June | 5141 | Inc. 892 | 318 | 51 |
| July | 5237 | Inc. 96 | 225 | 28 |
| August | 4860 | Dec. 377 | 265 | 20 |
| September | 5449 | Inc. 589 | 290 | 47 |
| October | 5215 | Dec. 234 | 380 | 50 |
| November | 4692 | Dec. 523 | 699 | 29 |
| December | 4342 | Dec. 350 | 374 | 10 |

AMOUNT OF POOR LAW RELIEF.

The following is a statement of the sums expended in the relief of the poor in the Birkenhead Union for the year ended 31st March, 1929:—

| | | | |
|---|----------|----|----|
| Union Institution | £10,194 | 7 | 2 |
| Eastham House | 411 | 8 | 0 |
| Union Infirmary | 19,530 | 0 | 1 |
| Children's Homes | 2,430 | 17 | 10 |
| Outdoor relief (actual cash payments to recipients of) | 51,722 | 4 | 9 |
| Outdoor relief (on loan to unemployed) | 26,802 | 13 | 8 |
| Lunatics in asylums and licensed houses (total cost of maintenance) | 28,074 | 11 | 10 |
| Persons maintained in other Institutions not under the control of the Guardians | 6,780 | 8 | 8 |
| | £145,946 | 12 | 0 |

Prior to the recent extension of boundaries of the County Boroughs of Birkenhead and Wallasey, the Birkenhead Union area covered those two Boroughs, and the parishes of Bidston-cum-Ford and Noctorum. The populations of these three component parts were, in 1921:—

| | | |
|--------------------------|---------|------------------|
| Birkenhead | 145,592 | (61.3 per cent.) |
| Wallasey | 90,721 | (38.2 per cent.) |
| Bidston and Noctorum ... | 1,091 | (0.5 per cent.) |

The Birkenhead added areas come partly within the area of the Birkenhead Union (a portion of Bidston parish) and partly within the area of the Wirral Union (Prenton, Landican and Thingwall parishes).

WATER SUPPLY, FOOD, AND DRUGS.

THE WATER SUPPLY.

Particulars regarding the water supply of the Borough were given in detail in my annual report for 1921.

The consumption of water in Birkenhead for the year ending 31st March, 1928, was 1,696,919,000 gallons.

Bacteriological examinations. — Arrangements were continued during the year for bacteriological examinations of the Alwen water supply to be carried out in the laboratory in the Medical Officer's Department. The procedure followed was indicated in my annual report for 1923.

During the past year, bacteriological examinations have been carried out in connection with—

60 samples of tap water in Birkenhead.

11 samples of water from Alwen Reservoir, before filtration.

20 samples of water at Alwen, after passing through the filtration apparatus.

The latter tests provide a very useful and sensitive check on the efficacy of the filtration process.

The samples of tap water referred to above include special samples taken in each of the supply districts at the request of the Water Engineer, in addition to the usual weekly tests.

THE MILK SUPPLY.

The question of the milk supply was discussed fully in my annual report for 1927. During the past year a considerable improvement has been noticeable in the cleanliness of the milk sent into the Borough—a result which is due to the vigorous steps taken by the Health Authority. On the whole the milk now arriving in the Borough is of good quality and clean.

The arrangements for the sale of “graded” milk in this country require careful revision. For one thing, the terminology used—“Certified”, “Grade A. (T.T.)”, “Grade A”, etc.—would almost appear to have been invented with the object of causing the greatest possible amount of confusion in the public mind. The impression conveyed popularly is that “Grade A” must be the best milk, whereas it is really third in the scale. The grading should be revised, and the grades re-named. The best milk should be designated “Grade 1”, the second best “Grade 2”, and so on.

Another matter which calls for attention is the compulsory keeping of registers by dealers. During the past year one Birkenhead licence to bottle Grade A (Tuberculin Tested) milk was revoked by the Council, the dealer in this case having sold as such milk which was not actually Grade A (T.T.) milk. Unscrupulous dealers are very difficult to detect in fraud of this kind, and may carry on for some considerable time without being found out. Such a fraud cannot be perpetrated with "Certified" milk, and it could be considerably minimised with other Graded milk if legislation provided that a register be kept by the dealer of all "Graded" milk sold by retail. Such a register is required with regard to all *wholesale* transactions in this milk, and this requirement should be extended to retail sales also. It would then be possible to check supplies received with those sold and so considerably reduce any tendency to defraud.

Dairy farms.—Milk is supplied to the Borough chiefly from farms in Cheshire, Shropshire, Denbighshire and Flintshire.

There are now 14 cowsheds within the boundaries of the Borough, 10 of these being in the extended area.

Milkshops and the retail sale of milk.—There are 155 registered milk shops in Birkenhead. In addition, the following are registered for retailing milk within the Borough:—79 farmers resident outside Birkenhead, 2 "purveyors" of milk, and the 14 cowsheds within the Borough referred to in the preceding paragraph.

Applications for registration.—During the year 24 applications for registration—Milk and Dairies (Amendment) Act, 1922—have been received from persons desiring to retail milk within the Borough. All of these have been placed on the register.

Removals from register.—In 10 cases purveyors were persuaded to discontinue selling milk, and their names were removed from the register without the necessity of taking formal action.

Formal action was taken in 3 cases where milk was stored in unsuitable premises, and the names of these persons were removed from the register.

Sale of "Graded" milk.—Under the Milk (Special Designations) Order, 1923, dealers' licences for the sale of graded milk are granted by the Council to suitable applicants. These licences are valid only for the period ending on the 31st December in the year in respect of which they are granted. During the year 4 licences were granted to persons other than producers to retail *certified milk* within the Borough.

4 licences were granted to bottle and sell *Grade A (Tuberculin Tested) Milk*.

3 licences were granted to sell *Grade A (Tuberculin Tested) Milk*.

8 licences were granted to bottle and sell *Grade A Milk*.

5 licences were granted to sell *Grade A Milk*.

1 licence was granted to sell *Pasteurised Milk*.

1 supplementary licence was granted to sell *Grade A Milk*.

The chemical and physical examination of milk.—During the year 277 samples of milk were taken for chemical analysis. Samples taken are submitted to chemical and physical examination with a number of different objects in view. The chief of these are—

- The estimation of the amount of fat (cream) present.
- The estimation of the amount of solids other than fat present.
- The detection of the presence of added water.
- The detection of the addition of colouring matter or thickening substances.
- The detection of the addition of dried or condensed milk, or skimmed or separated milk.
- The detection of the presence of preservatives.
- The estimation of the quantity of dust or dirt, if any.

A. *Fat and non-fatty solids.*—The average composition of the milk samples taken during the year and submitted to chemical analysis was as follows:—

| | |
|------------------------|-------|
| Fat | 3.54% |
| Non-fatty solids | 8.79% |

The composition of each sample is indicated in Table F 1 (page 36).

The action taken with regard to samples which were found to be below standard is shown in Table F 6 (page 45).

B. *Colouring matter, etc.*—No proceedings were instituted during the year under Section 4 of the Milk and Dairies (Amendment) Act, 1922 which prohibits the addition of any colouring matter, or water, or any dried or condensed milk, or any fluid reconstituted therefrom, or any skimmed milk or separated milk, to milk intended for sale. (Proceedings were instituted in certain cases under the Sale of Food and Drugs Acts for the addition of water to milk. See Table F 6, page 45).

C. *Sediment.*—In milk as it comes from the udder there is practically no sediment—say not more than one grain per gallon of milk. The presence of a larger quantity of sediment in milk is an indication that dust or dirt has been allowed to gain access to it. Not infrequently this adventitious dirt consists of cow manure.

All samples taken during the year which were found to contain

- (a) 6 parts by volume per 100,000; or
- (b) dung in any quantity whatever

were treated in the same manner as adulterated samples, proceedings being instituted unless special circumstances were present.

Out of 277 milk samples taken, 23 (or 10.1%) were found to contain 6 parts per 100,000 or more of sediment; and 31 (or 11.2%) showed the presence of dung.

For details of action taken, see Table F 6 (page 45).

The bacteriological examination of milk.—The bacteriological examination of milk falls into three main divisions—

(a) An examination to ascertain the degree of general organismal contamination of the milk. This is recorded in various ways—for example, by stating number of bacteria present in one cubic centimetre (roughly a quarter of a teaspoonful) of the milk.

(b) An examination to ascertain whether bacillus coli (an intestinal organism) is present, and if so, in what quantities. This is primarily useful as an indication of contamination with cow manure.

(c) An examination to ascertain whether living tubercle bacilli are present. For this animal inoculation is necessary.

General organismal content and B. coli contamination.—Examinations for the estimation of the general organismal content of milk, and for the presence of bacillus coli, were begun in the municipal laboratory in 1925, when 12 samples were dealt with. In 1926, 42 were examined; in 1927, 54; and in 1928, 56 were dealt with.

The examinations have been confined to the “graded” milks for which the following standards have been prescribed by the Ministry of Health:—

Certified milk—Must not contain more than 30,000 organisms per c.c. or any bacillus coli in 1/10 of a c.c.

Grade A (tuberculin tested) and Grade “A” milk—Must not contain more than 200,000 organisms per c.c. or any bacillus coli in 1/100 of a c.c.

Pasteurised milk—Must not contain more than 100,000 organisms per c.c.

The results of the year's investigations are set out in Table F 2, on page 38. The table should be read in conjunction with the above standards.

Contamination with B. Tuberculosis.—At the beginning of 1927 arrangements were made for the bacteriological examination in the municipal laboratory of samples of milk for the presence of living tubercle bacilli. The routine procedure followed is described above.

During the year 84 samples (all of “ordinary” milk) were examined. Of these 9 were found to contain living tubercle bacilli. This is equivalent to 10.7% of the total samples examined, a marked improvement as compared with last year, when 21.0% of the milks examined in this way were found to be tuberculous.

In Table F 3 (page 40), a statement of the positive results of bacteriological examination for B. Tuberculosis is set out.

TABLE F 1.

Composition of milk samples taken during 1928.

| Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat | Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat | Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat |
|----------------|--|-------------------|------------------------------|----------------|--|-------------------|------------------------------|----------------|--|-------------------|------------------------------|
| Jan. 4 | 1 | 3.08 | 8.81 | Mar. 11 | 140 | 3.37 | 8.99 | Apl. 24 | 195 | 3.18 | 9.08 |
| | 2 | 4.20 | 8.72 | | 141 | 2.85 | 8.82 | | 196 | 3.06 | 8.78 |
| | 3 | 4.15 | 8.81 | | 142 | 3.45 | 8.68 | 28 | 197 | 3.17 | 8.77 |
| | 4 | 4.17 | 8.89 | | 143 | 2.40 | 8.87 | | 198 | 3.30 | 8.82 |
| | 5 | 4.40 | 8.40 | | 144 | 4.30 | 8.50 | May 1 | 199 | 3.06 | 8.87 |
| | 6 | 3.08 | 8.68 | | 145 | 3.45 | 8.86 | 3 | 215 | 3.10 | 8.73 |
| | 7 | 3.52 | 8.64 | | 146 | 3.12 | 8.63 | | 216 | 3.31 | 8.76 |
| 9 | 8 | 4.45 | 9.16 | | 147 | 3.39 | 8.71 | | 217 | 3.30 | 8.69 |
| | 9 | 3.98 | 9.47 | 15 | 149 | 3.18 | 9.12 | | 218 | 3.20 | 8.78 |
| | 10 | 3.15 | 8.96 | | 150 | 3.21 | 9.04 | | 219 | 2.98 | 8.50 |
| | 11 | 3.20 | 8.70 | | 151 | 3.30 | 9.13 | | 220 | 3.71 | 8.80 |
| | 12 | 4.20 | 8.48 | | 152 | 3.19 | 9.09 | | 221 | 3.71 | 8.80 |
| | 13 | 3.39 | 8.78 | 16 | 153 | 3.70 | 8.84 | 5 | 222 | 4.37 | 8.87 |
| | 14 | 3.18 | 8.24 | | 154 | 3.55 | 9.07 | | 223 | 3.12 | 8.88 |
| 17 | 15 | 3.31 | 8.45 | | 155 | 3.60 | 9.20 | | 224 | 3.27 | 8.91 |
| | 16 | 3.89 | 8.43 | | 156 | 3.38 | 8.75 | | 225 | 3.82 | 8.88 |
| | 17 | 3.10 | 8.46 | | 157 | 4.00 | 8.92 | 9 | 226 | 3.21 | 9.29 |
| | 18 | 3.23 | 8.78 | 21 | 159 | 3.65 | 8.70 | | 227 | 3.42 | 8.86 |
| 19 | 31 | 2.61 | 8.33 | 25 | 160 | 3.15 | 8.59 | | 228 | 3.00 | 8.69 |
| | 32 | 3.53 | 8.55 | | 161 | 3.10 | 8.84 | | 229 | 4.03 | 9.07 |
| | 33 | 3.95 | 8.53 | | 162 | 3.60 | 8.88 | | 230 | 4.20 | 8.53 |
| | 34 | 3.23 | 8.55 | | 163 | 3.45 | 8.45 | | 231 | 2.87 | 8.24 |
| 22 | 35 | 2.88 | 8.69 | | 164 | 3.54 | 8.62 | 10 | 232 | 3.65 | 8.88 |
| | 36 | 3.15 | 8.80 | | 165 | 4.22 | 8.46 | | 233 | 3.90 | 8.63 |
| | 37 | 2.67 | 8.60 | | 166 | 3.98 | 8.57 | 19 | 248 | 3.33 | 8.24 |
| | 38 | 3.02 | 8.58 | | 167 | 3.25 | 8.75 | 23 | 250 | 3.90 | 8.76 |
| | 39 | 3.13 | 8.81 | Apl. 3 | 169 | 3.30 | 8.57 | | 251 | 3.43 | 8.92 |
| | 40 | 4.45 | 8.71 | | 170 | 3.40 | 8.67 | | 252 | 3.68 | 9.15 |
| 25 | 43 | 3.70 | 8.84 | | 171 | 3.00 | 8.66 | | 253 | 3.91 | 8.94 |
| 28 | 57 | 2.88 | 8.72 | | 172 | 3.68 | 8.87 | | 254 | 3.17 | 8.93 |
| | 58 | 3.41 | 8.64 | | 173 | 3.15 | 8.56 | | 255 | 3.10 | 8.95 |
| Feb. 12 | 59 | 3.42 | 8.67 | | 174 | 3.76 | 8.73 | | 256 | 3.31 | 8.96 |
| | 89 | 3.02 | 8.94 | 10 | 175 | 7.53 | 7.75 | 24 | 257 | 3.70 | 8.98 |
| | 90 | 3.62 | 9.02 | | 176 | 3.55 | 8.63 | | 258 | 3.15 | 9.03 |
| | 91 | 3.20 | 8.90 | | 177 | 3.02 | 8.65 | | 259 | 2.83 | 8.33 |
| | 92 | 3.09 | 8.96 | | 178 | 4.88 | 8.71 | | 260 | 3.59 | 9.05 |
| 21 | 97 | 4.48 | 8.42 | | 179 | 3.67 | 8.59 | | 261 | 2.85 | 9.21 |
| | 98 | 3.20 | 8.65 | | 180 | 3.68 | 8.62 | | 262 | 2.70 | 9.12 |
| | 99 | 3.99 | 8.43 | 16 | 181 | 3.67 | 8.99 | | 263 | 3.07 | 9.15 |
| | 100 | 3.51 | 8.73 | | 182 | 3.24 | 8.78 | 29 | 264 | 3.01 | 9.19 |
| Mar. 5 | 127 | 3.23 | 8.69 | | 183 | 3.55 | 8.77 | | 265 | 3.82 | 8.71 |
| | 128 | 3.38 | 8.85 | | 184 | 3.40 | 8.86 | | 266 | 3.11 | 8.85 |
| | 129 | 3.68 | 8.68 | | 185 | 3.15 | 8.55 | June 3 | 289 | 4.35 | 8.57 |
| | 130 | 2.88 | 8.79 | 20 | 186 | 3.80 | 8.52 | | 290 | 3.00 | 8.98 |
| | 131 | 2.95 | 8.85 | | 187 | 3.00 | 8.85 | | 291 | 4.00 | 8.83 |
| | 132 | 4.79 | 8.39 | 21 | 188 | 2.94 | 8.83 | | 292 | 3.18 | 8.92 |
| 7 | 133 | 3.42 | 8.92 | | 189 | 3.40 | 8.92 | | 293 | 3.13 | 8.97 |
| | 134 | 3.53 | 8.36 | | 190 | 3.58 | 8.68 | | 294 | 2.91 | 8.99 |
| | 135 | 3.21 | 8.67 | 24 | 191 | 4.63 | 8.88 | 6 | 295 | 2.73 | 8.80 |
| | 136 | 5.00 | 8.58 | | 192 | 3.47 | 8.47 | | 296 | 2.94 | 8.81 |
| | 137 | 2.95 | 8.77 | | 193 | 3.90 | 8.93 | 28 | 298 | 3.90 | 9.36 |
| 8 | 139 | 4.20 | 8.80 | | 194 | 2.61 | 8.54 | July 1 | 299 | 3.16 | 8.64 |

TABLE F 1.—CONTINUED.

| Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat | Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat | Date of sample | Identification No. given in quarterly report | Percentage of fat | Percentage of solids not fat |
|----------------|--|-------------------|------------------------------|----------------|--|-------------------|------------------------------|----------------|--|-------------------|------------------------------|
| July 1 | 300 | 3.07 | 8.92 | Sept. 23 | 392 | 3.60 | 8.95 | Nov. 6 | 467 | 3.79 | 8.77 |
| | 301 | 4.30 | 7.90 | | 393 | 3.72 | 8.83 | 8 | 468 | 3.69 | 8.64 |
| | 302 | 4.11 | 8.89 | | 394 | 3.46 | 9.25 | | 469 | 3.32 | 8.64 |
| | 303 | 3.30 | 8.86 | 27 | 395 | 3.35 | 8.24 | | 470 | 3.40 | 9.02 |
| | 304 | 3.27 | 8.83 | | 396 | 3.00 | 7.99 | | 471 | 4.26 | 8.43 |
| 4 | 306 | 3.31 | 8.93 | Oct. 12 | 415 | 4.00 | 9.05 | | 472 | 3.42 | 8.51 |
| | 307 | 3.16 | 9.00 | | 416 | 3.65 | 9.03 | 15 | 473 | 3.38 | 9.03 |
| | 308 | 4.26 | 8.54 | | 417 | 3.28 | 8.94 | | 474 | 3.70 | 8.80 |
| | 310 | 3.00 | 9.28 | | 418 | 3.70 | 9.10 | | 475 | 3.51 | 8.73 |
| | 311 | 3.98 | 8.90 | | 419 | 4.78 | 9.64 | | 476 | 3.60 | 8.24 |
| 9 | 312 | 3.65 | 8.54 | | 420 | 3.51 | 9.14 | | 477 | 4.31 | 8.71 |
| | 313 | 3.23 | 8.70 | 23 | 438 | 5.00 | 8.82 | | 478 | 3.73 | 8.94 |
| | 314 | 2.64 | 8.83 | | 439 | 5.32 | 9.02 | | 479 | 4.30 | 8.70 |
| | 315 | 3.81 | 8.72 | | 440 | 3.27 | 9.13 | | 480 | 3.81 | 8.83 |
| 13 | 323 | 2.98 | 8.82 | | 441 | 4.51 | 8.68 | | 481 | 3.68 | 8.87 |
| | 324 | 2.99 | 8.32 | | 442 | 3.80 | 8.98 | 18 | 482 | 4.23 | 8.83 |
| | 325 | 3.62 | 8.70 | | 443 | 4.10 | 9.14 | | 483 | 5.10 | 8.75 |
| 17 | 327 | 5.20 | 9.46 | 30 | 444 | 4.85 | 9.15 | | 484 | 4.60 | 8.64 |
| Aug. 2 | 341 | 2.91 | 8.63 | | 445 | 3.88 | 8.87 | | 485 | 4.60 | 8.92 |
| 9 | 353 | 2.79 | 8.71 | | 446 | 3.02 | 8.41 | | 486 | 3.80 | 9.04 |
| 15 | 364 | 3.90 | 8.47 | | 447 | 3.86 | 8.70 | | 487 | 3.51 | 8.96 |
| 16 | 365 | 2.49 | 8.59 | | 448 | 3.34 | 9.00 | 20 | 488 | 3.41 | 8.78 |
| Sept. 19 | 373 | 3.95 | 8.89 | | 449 | 3.62 | 8.94 | | 489 | 3.22 | 8.74 |
| | 374 | 3.75 | 8.90 | | 450 | 3.85 | 8.77 | | 490 | 4.08 | 8.51 |
| | 375 | 4.00 | 8.78 | | 451 | 4.41 | 8.81 | 21 | 507 | 3.61 | 9.03 |
| | 376 | 3.04 | 8.81 | | 452 | 3.43 | 8.99 | | 508 | 3.60 | 9.14 |
| | 377 | 3.92 | 9.06 | | 453 | 4.89 | 8.66 | Dec. 5 | 513 | 4.15 | 8.45 |
| | 378 | 3.50 | 8.98 | | 454 | 4.17 | 8.85 | | 514 | 3.32 | 9.04 |
| | 379 | 3.18 | 8.79 | | 455 | 4.00 | 8.80 | | 515 | 3.25 | 8.91 |
| 20 | 380 | 3.88 | 9.18 | | 456 | 3.95 | 9.17 | | 516 | 3.41 | 8.57 |
| | 381 | 4.65 | 9.03 | | 457 | 4.01 | 8.79 | | 517 | 3.85 | 8.71 |
| | 382 | 3.27 | 8.83 | | 458 | 3.65 | 8.43 | | 518 | 3.12 | 8.84 |
| | 383 | 4.30 | 8.86 | | 459 | 4.55 | 8.91 | | 519 | 4.16 | 8.82 |
| | 384 | 3.29 | 8.87 | Nov. 2 | 460 | 4.00 | 8.56 | | 520 | 3.35 | 8.79 |
| | 385 | 3.82 | 9.11 | | 461 | 3.68 | 8.78 | | 521 | 3.75 | 8.89 |
| | 386 | 3.90 | 8.85 | 6 | 462 | 6.00 | 8.66 | | 522 | 4.30 | 8.96 |
| 23 | 387 | 3.63 | 9.23 | | 463 | 3.78 | 9.06 | 13 | 538 | 3.61 | 8.50 |
| | 388 | 3.08 | 8.33 | | 464 | 3.10 | 8.92 | | 539 | 4.05 | 8.74 |
| | 389 | 3.81 | 8.92 | | 465 | 3.80 | 8.98 | | 540 | 3.40 | 9.02 |
| | 390 | 4.18 | 8.66 | | 466 | 3.70 | 9.04 | | 541 | 4.00 | 8.81 |
| | 391 | 3.59 | 9.23 | | | | | | | | |

Average percentage Fat, 3.54 ... Solids (not fat), 8.79

TABLE F 2.
Bacteriological examinations of graded milk.

| Con- sec. No. | Lab. No. | Grade | Tempera- ture on arrival at labora- tory | Age of sample —hours | Number of colonies on plate | | | | Number of bacteria per c.c. | Presence of bacillus coli in tubes | | | | | | |
|---------------------|-------------|---------------|--|----------------------------|-----------------------------|----------------|---------|-------------------|-----------------------------------|------------------------------------|-------|-----|--------|----------|---------|----------|
| | | | | | 1/1000 c.c. | | | Control | | 48 hours | | | 3 days | | | |
| | | | | | 1/10 c.c./100c.c | 1/1000 c.c. | Control | | | 1 | 2 | 3 | 1 c.c. | Control | 1 | 2 | 3 |
| 1 | 122 | "A" | 49° | 5 | 303 | 20 | 1 | 1 | 3,030 | nil | nil | nil | found | satisfy. | Control | satisfy. |
| 2 | 123 | "Pasteurised" | 47° | 17 | 280 | 33 | 6 | 1 | 2,800 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 3 | 124 | "A" (T.T.) | 50° | 5 | 36 | — | 7 | contami- nated | 360 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 4 | 125 | "A" | 47° | 4 | 111 | — | — | contami- nated | 1,110 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 5 | 126 | "A" | 39° | 16 | 698 | 210 | 5 | 4 | 6,980 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 6 | 127 | "Certified" | 54° | 5 | 546 | 64 | 8 | 2 | 5,460 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 7 | 128 | "Certified" | 48° | 16 | 60 | 5 | 0 | 0 | 600 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 8 | 129 | "Certified" | 50° | 5 | 1012 | 94 | 13 | 4 | 10,120 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 9 | 130 | "A" (T.T.) | — | 22 | 77 | 9 | — | 3 | 770 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 10 | 131 | "A" | 50° | 4 | 404 | 33 | 5 | 5 | 4,040 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 11 | 132 | "A" | 50° | 28 | 117 | 13 | 4 | 1 | 1,170 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 12 | 133 | "A" | 57° | 17 | 77 | 6 | 4 | 0 | 770 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 13 | 134 | "Certified" | 58° | 5 | 590 | 50 | 10 | 1 | 5,900 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 14 | 135 | "A" | — | — | 834 | 72 | 5 | 1 | 8,340 | found | found | nil | found | satisfy. | found | satisfy. |
| 15 | 136 | "A" (T.T.) | 53° | 5 | 586 | 30 | 2 | — | 5,860 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 16 | 137 | "A" | 55° | — | 84 | 11 | 1 | — | 840 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 17 | 138 | "Certified" | 63° | 5 | 209 | 11 | 4 | 3 | 2,090 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 18 | 139 | "A" | 63° | 5 | 348 | 33 | 4 | 3 | 3,480 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 19 | 140 | "Certified" | 56° | 19 | 228 | 16 | 5 | 6 | 2,280 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 20 | 141 | "A" | 50° | 5 | *O.G. | 261 | 33 | — | 26,100 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 21 | 142 | "A" | 61° | — | 516 | 52 | 8 | 1 | 5,160 | nil | nil | nil | found | satisfy. | nil | satisfy. |
| 22 | 143 | "Certified" | 62° | — | 492 | 62 | 8 | 1 | 4,920 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 23 | 144 | "A" | 62° | 17 | 467 | 8 | 1 | 6 | 4,670 | nil | nil | nil | nil | satisfy. | nil | satisfy. |
| 24 | 145 | "Certified" | 66° | 4 | 464 | 63 | 7 | 1 | 4,640 | nil | nil | nil | nil | satisfy. | nil | satisfy. |

TABLE F 3.
Bacteriological examinations of milk for tubercle bacilli.

| Consec. No. | Lab. No. | Acid fast bacilli in smears | Cow injected | Result | Pathological findings and notes | Remarks |
|----------------|-------------|-----------------------------------|-----------------|------------------|--|---|
| 6 | 41 | Found | P 124 P 125 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |
| 29 | 64 | Found | P 164 P 165 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |
| 35 | 70 | Found | P 167 P 177 | Died Killed | Died too early to be of use... Definite tuberculosis... | Three sick cows slaughtered after sample was taken. Not definitely traced |
| 36 | 71 | Found | P 178 P 179 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |
| 39 | 74 | Found | P 185 P 186 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | Two diseased cows killed after sample was taken. Not definitely traced |
| 66 | 101 | Found | P 163 P 231 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |
| 70 | 105 | Found | P 237 P 238 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |
| 74 | 109 | Found | P 245 P 246 | Killed Killed | No evidence of tuberculosis... Definite tuberculosis... | One cow shot and buried after sample was taken. Not definitely traced |
| 76 | 111 | Found | P 256 P 257 | Killed Killed | Definite tuberculosis... Definite tuberculosis... | One cow found tuberculous and dealt with under the Tuberculosis Order, 1925 |

Water supply, food, and drugs.

OTHER FOODS.

Abattoirs in Birkenhead.—Particulars regarding these—the abattoir within the Woodside Lairages and the Corporation abattoir at Tranmere—were given in my annual report for 1920.

Food inspection.—The Veterinary Officer reports that during the year there were killed 73,499 oxen, 1,212 calves, 5,023 pigs, 10,870 sheep and lambs, and 14 goats; as set out in Table F 4.

TABLE F 4.

Animals dealt with during 1928.

| | Oxen | Calves | Pigs | Sheep & Lambs | Goats | Total |
|--|--------|--------|-------|---------------|-------|--------|
| No. of animals remaining over in lairages from 1927 (slaughtered in 1928)..... | 1215 | — | 3 | 1 | — | 1219 |
| No. of animals landed from vessels at Birkenhead during the year 1928 — | | | | | | |
| (a) From Isle of Man | 280 | — | 364 | 2626 | 4 | 3274 |
| (b) From Ireland | 249008 | — | 47224 | 365548 | 272 | 662052 |
| (c) From other places abroad | 140 | — | — | — | — | 140 |
| Total..... | 250643 | — | 47591 | 368175 | 276 | 666685 |
| The above animals were dealt with as follows— | | | | | | |
| A—Slaughtered in Birkenhead— | | | | | | |
| (1) At Woodside lairages | 73105 | — | 402 | 34 | — | 73541 |
| (2) At nos. 4 and 5 sheds | — | — | 19 | 251 | 14 | 284 |
| (3) At "Wallasey Stage," B'head ... | 139 | — | 65 | 100 | — | 304 |
| B—(1) Removed alive from the district | 176854 | — | 47105 | 367790 | 262 | 592011 |
| (2) Not slaughtered by end of 1928 (still in lairages) | 545 | — | — | — | — | 545 |
| Total | 250643 | — | 47591 | 368175 | 276 | 666685 |
| No. of animals slaughtered in Birkenhead not included in the above statement— | | | | | | |
| At Municipal Abattoir..... | 255 | 1212 | 4537 | 10485 | — | 16489 |
| Total animals slaughtered in Birkenhead..... | 73499 | 1212 | 5023 | 10870 | 14 | 90618 |

The total number of carcasses seized was:—

| | | | |
|-----------------------------|-----|----------|--------------|
| At Woodside | 277 | weighing | 145,246 lbs. |
| At "Wallasey Stage," B'head | 180 | ,, | 30,862 lbs. |
| At nos. 4 & 5 Sheds | 33 | ,, | 3,013 lbs. |
| At Tranmere Abattoir | 88 | ,, | 10,612 lbs. |
| At shops | 14 | ,, | 1,313 lbs. |
| At other premises | nil | | nil |
| Total | 592 | ,, | 191,046 lbs. |

344 of the above carcasses were seized on account of tuberculosis; their aggregate weight being 121,788 lbs. The remainder was seized on account of transit injuries, dropsy, sepsis, etc.

The number of parts of carcasses seized was:—

| | | | |
|-----------------------------|-----|----------|-------------|
| At Woodside | 390 | weighing | 28,902 lbs. |
| At "Wallasey Stage," B'head | 13 | „ | 512 lbs. |
| At Tranmere Abattoir | 198 | „ | 2,789 lbs. |
| At nos. 4 & 5 Sheds | 1 | „ | 9 lbs. |
| At shops | 53 | „ | 775 lbs. |
| At other premises | nil | | nil |
| Total | 655 | „ | 32,987 lbs. |

Of the above, 534 were seized on account of tuberculosis; the aggregate weight being 30,210 lbs. 19 heads and 60 tongues weighing 620 lbs., were seized on account of actinomycosis and actinobacillosis

The total weight of offal seized was 308,868 lbs.

Other articles of food.—The total weight of articles of food seized at various premises in the Borough was 553 lbs. In addition, 6,369 eggs were seized.

Samples taken under Food and Drugs Acts.—During the year 541 samples were taken. Of these 295 were formal and 246 informal. 277 were samples of milk, already referred to on page 34.

The articles sampled are set out in the following table:—

TABLE F 5.

Samples taken during 1928.

| Article | No. samples taken formally | No. samples taken informally | Article | No. samples taken formally | No. samples taken informally |
|----------------------------|-------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------|
| Milk | 277 | — | Mincemeat | — | 4 |
| Condensed milk..... | — | 2 | Shredded suet..... | — | 3 |
| Cream | 7 | — | Ground almonds | — | 4 |
| Tinned cream | — | 1 | Canned fruit and vegetables | — | 4 |
| Butter | 1 | 26 | Cream cakes | 1 | 7 |
| Margarine | 1 | 19 | Treacle | — | 1 |
| Cheshire cheese | 2 | 13 | Herb beer..... | — | 1 |
| Cream cheese | — | 1 | Pepper | — | 4 |
| Lard | — | 13 | Mustard | — | 1 |
| Beef dripping | 2 | 3 | Vinegar | — | 2 |
| Sausage | 1 | 12 | Malt vinegar | — | 4 |
| Sausage seasoning | — | 1 | Sauce | — | 5 |
| Sausage meal | — | 1 | Pickles | — | 5 |
| Minced beef..... | 1 | 3 | Ground ginger..... | — | 1 |
| Tripe..... | — | 2 | Almond oil | 1 | 3 |
| Brawn | — | 1 | Linseed oil | — | 1 |
| Chicken & ham paste..... | — | 1 | Eucalyptus oil..... | — | 2 |
| Potted shrimps | — | 1 | Olive oil | — | 2 |
| Fish paste | — | 1 | Camphorated oil..... | — | 2 |
| Canned fish | — | 2 | Castor oil | — | 2 |
| Self-raising flour..... | — | 8 | Cream of tartar | — | 2 |
| Rice | — | 3 | Glauber salts | — | 4 |
| Ground rice | — | 1 | Epsom salts..... | — | 4 |
| Tapioca | — | 1 | Seidlitz powder | — | 4 |
| Tea | — | 2 | Boracic powder | — | 1 |
| Cocoa | — | 4 | Boracic ointment .. | — | 4 |
| Coffee | — | 1 | Sulphur ointment ... | — | 2 |
| Coffee & chicory | — | 1 | Zinc ointment | — | 2 |
| Coffee & chicory extract.. | — | 2 | Glycerine | — | 3 |
| Sugar | — | 12 | Paregoric | — | 1 |
| Honey | — | 1 | Tincture of iodine .. | 1 | 2 |
| Golden syrup | — | 1 | Borax | — | 1 |
| Sweets | — | 6 | Blood tonic | — | 1 |
| Jam | — | 4 | Wine of iron | — | 1 |
| Fruit cordial | — | 5 | Cod liver oil & malt .. | — | 1 |

Samples analysed formally 295

Samples analysed informally 246

Total samples analysed during the year 541

Of the total number of samples analysed

59 samples of milk

2 samples of cream

2 samples of butter

1 sample of margarine

1 sample of cream cheese

4 samples of Cheshire cheese

3 samples of beef dripping

- 1 sample of minced beef
- 3 samples of cream buns
- 2 samples of almond oil
- 1 sample of tinned sardines
- 2 samples of seidlitz powders
- 2 samples of tincture of iodine
- 1 sample of tinned prunes

were reported adulterated, and proceedings were taken in respect of:—

- 34 samples of milk
- 2 samples of cream
- 1 sample of almond oil
- 1 sample of cream buns
- 2 samples of Cheshire cheese
- 1 sample of tincture of iodine
- 2 samples of beef dripping

With reference to the remaining samples reported adulterated it was decided, after consideration of the circumstances, that it was inadvisable to institute proceedings.

Informal samples.—Suitable action was taken regarding each of the 16 informal samples reported adulterated.

Particulars of the defects found in those samples with regard to which proceedings were taken, and the result of the proceedings, are set out in Table F 6.

The composition of each sample of milk analysed during the year will be found in Table F 1.

TABLE F 6.

Samples with reference to which proceedings were taken.

Nature of adulteration and result of proceedings.

| Date | Article | No. of sample | Adulteration | Fine inflicted |
|----------|-----------------|---------------|---|----------------------|
| Jan. 9 | Milk | 9 | Sediment 10 pts. per 100,000, dung present | £2 & £1/11/6 costs |
| 17 | Milk | 14 | 3% added water | £2 and 10/6 costs |
| 19 | Milk | 31 | 12% deficient in fat and 2% added water... | £2 and 10/6 costs |
| 22 | Milk | 35 | 4% deficient in fat | £1 and 10/6 costs |
| | Milk | 37 | 11% deficient in fat | Withdrawn |
| 28 | Milk | 57 | 4% deficient in fat | Withdrawn |
| Feb. 29 | Cream | 101 | Artificial cream | Dismissed |
| | Cream | 102 | Artificial cream | Dismissed |
| Mar. 5 | Milk | 130 | 4% deficient in fat | £2 and 10/6 costs |
| 7 | Almond oil ... | 138 | Containing kernel oil | 8/6 & £1/11/6 costs |
| 11 | Milk | 141 | 5% deficient in fat, and sediment 7 pts. per 100,000, dung present..... | £2 & £1/11/6 costs |
| | Milk | 143 | 20% deficient in fat..... | £4 & £1/11/6 costs |
| 21 | Milk | 159 | Sediment 4 pts. per 100,000, dung present | Dismissed |
| 28 | Cream buns ... | 168 | Cream consisting of margarine | Dismissed |
| Apr. 21 | Milk | 188 | Sediment 6 pts. per 100,000, dung present and 2% deficient in fat | £1 & £1/11/6 costs |
| | Milk | 189 | Sediment 4 pts. per 100,000, dung present | £1 and 10/6 costs |
| | Milk | 190 | Sediment 5 pts. per 100,000, dung present | £1 and 10/6 costs |
| May 3 | Milk | 216 | Sediment 6 pts. per 100,000, dung present | £1/11/6 costs |
| 5 | Milk | 222 | Sediment 5 pts. per 100,000, dung present | £2 & £1/11/6 costs |
| | Milk | 223 | Sediment 5 pts. per 100,000, dung present | £2 and 10/6 costs |
| 23 | Milk | 251 | Sediment 11 pts. per 100,000, dung present | £2/10/- |
| 24 | Milk | 259 | 4% deficient in fat and 2% added water ... | £2 |
| | Milk | 261 | 5% deficient in fat..... | £2 |
| | Milk | 262 | 10% deficient in fat..... | £2 and 10/6 costs |
| May 3 | Milk | 221 | Sediment 7 pts. per 100,000, dung present | £1 & £1/11/6 costs |
| June 6 | Milk | 295 | 9% deficient in fat | Dismissed |
| 26 | Cheshirecheese | 297 | Made from skimmed milk | £4 & £1/11/6 costs |
| July 1 | Milk | 301 | 7% added water | £2 and 10/6 costs |
| 9 | Milk | 314 | 12% deficient in fat..... | £2 and 10/6 costs |
| 27 | Tinc. of iodine | 326 | 9% deficient in iodine..... | £1/10/- |
| | Milk | 327 | Sediment 60 pts per 100,000, dung present | £10 & £1/11/6 costs |
| Sept. 27 | Milk | 395 | 3% added water | 10/- and 10/6 costs |
| | Milk | 396 | 6% added water | 10/- and 10/6 costs |
| Oct. 5 | Cheshirecheese | 414 | Made from skimmed milk | £4 & £1/11/6 costs |
| 12 | Beef dripping | 421 | 9.2% paraffin wax..... | 14/6 costs |
| 15 | Beef dripping | 422 | 8.4% paraffin wax..... | £10 & £1/11/6 costs |
| Nov. 15 | Milk | 476 | 3% added water..... | £1 and 10/6 costs |
| 20 | Milk | 488 | Sediment 9 pts. per 100,000, dung present | 5/- & £1/11/6 costs |
| | Milk | 490 | Sediment 7 pts. per 100,000, dung present | 5/- and 10/6 costs |
| Dec. 13 | Milk | 538 | Sediment 5 pts. per 100,000, dung present | £1/17/6 costs |
| | Milk | 539 | Sediment 5 pts. per 100,000, dung present | 10/- & £1/17/6 costs |
| | Milk | 540 | Sediment 9 pts. per 100,000, dung present | 10/- & £1/17/6 costs |
| | Milk | 541 | Sediment 15 pts. per 100,000, dung present | 10/- & £1/17/6 costs |

It will be noticed from the foregoing table that proceedings have been instituted in 18 instances for the presence of dirt in milk.

In 6 cases the vendors of dirty milk were warned that proceedings would be instituted if some improvement was not effected with regard to the dirt content of the milk.

TUBERCULOSIS.

ADMINISTRATIVE ARRANGEMENTS.

The arrangements made by the Birkenhead Corporation for dealing with tuberculosis in the area include

(a) The provision of a dispensary or clinic, opened in 1913. (This clinic is used on one half-day each week in connection with cases from the area of the administrative county of Chester.)

(b) The provision of garden shelters for suitable cases at a small rent.

(c) The retention since August, 1914, of twelve beds at Leasowe Hospital for cases of surgical tuberculosis in children.

(d) A joint arrangement with the Cheshire County Council, and the Councils of the County Boroughs of Wallasey, Chester, Stockport, and Stoke-on-Trent, for the provision of a sanatorium at Burntwood.

(e) The provision of a residential institution at Thingwall, Birkenhead.

Staff.—The medical and health visiting staff for tuberculosis at the end of 1928 was as set out in the annual report for 1921. The clinical work at Thingwall Sanatorium and at the Tuberculosis clinic has been carried out by Dr. Mason Leete and Dr. Foster.

Miss Hobson, the school teacher at Thingwall Sanatorium, resigned her position during the year and was succeeded by Miss Amelia Bury.

The Corkhill Fund.—Under the will of the late Mr. John Lloyd Corkhill, of Oxtou, a sum of money was provided for the assistance of persons suffering from consumption. By arrangement with the trustees, persons applying for help from the charity are passed through the municipal clinic for classification; and the trustees have been largely guided by the recommendations of the medical staff of the clinic.

PREVALENCE OF, AND MORTALITY FROM, TUBERCULOSIS.

Notifications.—The total number of primary cases of tuberculosis notified during 1928 was 365—234 respiratory and 131 non-respiratory. An analysis of these cases with reference to age and sex will be found in Table T 1 (page 54).

Mortality.—The total number of deaths, certified as due to tuberculosis, of patients who had previously been notified as suffering from the disease was 165—135 respiratory and 30 non-respiratory.

The total number of deaths, certified as due to tuberculosis, of patients who had *not* previously been notified as suffering from tuberculosis was 28—15 respiratory and 13 non-respiratory.

Adding these together, the total number of deaths certified as due to tuberculosis was as follows:—

| | |
|-----------------------|-------|
| Respiratory | 150 |
| Non-respiratory | 43 |
| | <hr/> |
| | 193 |

An analysis of the tuberculosis mortality for the past fourteen years will be found in Table T 2 (page 55).

Number of known cases.—After making deductions for patients who had died during the year, or who had permanently left the district, or whose names have been taken off the register as provisionally cured, the total number of known cases of tuberculosis in Birkenhead at the end of 1928 was as follows:—

| | Insured persons | | Dependents of insured persons | Neither insured persons nor dependents | Total |
|-----------------------------|-----------------|--------|-------------------------------|--|-------|
| | Ex-service men | Others | | | |
| Respiratory .....Male | 33 | 503 | 146 | 32 | 714 |
| Female ... | — | 220 | 113 | 386 | 719 |
| Non-respiratory Male | 4 | 53 | 314 | — | 371 |
| Female ... | — | 66 | 273 | 40 | 379 |
| Total...Male | 37 | 556 | 460 | 32 | 1085 |
| Female ... | — | 286 | 386 | 426 | 1098 |
| Total | 37 | 842 | 846 | 458 | 2183 |

A revision of the cases of tuberculosis on the register is carried out each year, with a view to seeing that, so far as is practicable, only the names of patients still suffering from tuberculosis, and resident in Birkenhead, are kept on the roll. In connection with the revision the following procedure is observed:—

(1) *Non-respiratory tuberculosis.* Cases of non-respiratory or surgical tuberculosis are struck off the register as cured when complete arrest of the disease has been maintained for three years.

(2) *Respiratory tuberculosis.*

(a) *Patients who have probably been wrongly notified as tuberculous.*

If the conclusion is come to that a notified case is not, and probably never was, one of active tuberculosis, the name is crossed off the register at the time of the annual revision after obtaining, if possible, the assent of the notifying practitioner.

(b) *Patients diagnosed on good evidence as suffering from respiratory tuberculosis, who at a later stage appear to have been cured.*

Such cases are not removed from the register until at least five complete calendar years have elapsed since the date of notification, and three complete calendar years after the disappearance of all symptoms.

Of the 150 patients who died from respiratory tuberculosis during 1928 those who had been notified

| | |
|--|---------------------|
| over four years numbered ... | 13 (8.5% of total) |
| under " " " " ... | 8 (6.0% ") |
| " three years " " ... | 12 (8.0% ") |
| " two years " " ... | 13 (8.5% ") |
| " one year " " ... | 19 (12.5% ") |
| " six months " " ... | 10 (6.5% ") |
| " three months " " ... | 21 (14.0% ") |
| " one month " " ... | 21 (14.0% ") |
| " one week " " ... | 18 (12.0% ") |
| and those who had not been notified numbered | 15 (10.0% ") |

Thus only 50% of these cases were notified to this department three months or more before death.

Of the 43 patients who died from non-respiratory tuberculosis during 1928 those who had been notified

| | |
|--|--------------------|
| over three years numbered... | 2 (4.7% of total) |
| under three years " " ... | 1 (2.4% ") |
| " one year " " ... | 3 (6.9% ") |
| " three months " " ... | 2 (4.7% ") |
| " one month " " ... | 6 (13.8% ") |
| " one week " " ... | 16 (37.3% ") |
| and those who had not been notified numbered | 13 (30.2% ") |

5 persons previously notified as suffering from tuberculosis died from other causes. These deaths were certified as being due to:—

| | |
|---|---|
| General paralysis of insane | 1 |
| Bronchitis and asthma | 1 |
| Secondary growth on lung, carcinoma | 1 |
| Chronic bronchitis | 1 |
| Measles | 1 |

CASES DEALT WITH THROUGH THE TUBERCULOSIS CLINIC.

Attendances of patients at the clinic.—During the year 1,982 examinations were made. Of these 643 were *first* examinations (*i.e.*, examinations of patients who had not been seen previously at the clinic). In addition to attendances made for the purpose of medical examination, 1,443 other attendances were made by patients for weighing, interview, advice or certification, and by patients' relatives in connection with questions arising as to treatment, removal, home conditions, etc.

Examination of patients who were notified for the first time during 1928.—Of the 365 new patients notified in 1928, 217 were examined at the clinic during the year. The remaining 148 were not referred to, did not attend at, or were previously examined at, the clinic.

Classification of new cases.—The 643 new patients who attended during the year were classified as follows:—

| | | *Adults | Children | Total |
|--|-----------------|---------|----------|-------|
| Classed as suffering from respiratory tuberculosis | { Males ... | 62 | 7 | 69 |
| | { Females | 71 | 3 | 74 |
| Classed as suffering from other forms tuberculosis | { Males ... | 8 | 27 | 35 |
| | { Females | 9 | 34 | 43 |
| Classed as non-tuberculous | { Males ... | 82 | 85 | 167 |
| | { Females | 51 | 76 | 127 |
| Classed as "suspect" | { Males ... | 34 | 29 | 63 |
| | { Females | 50 | 15 | 65 |
| Total... | { Males | 186 | 148 | 334 |
| | { Females | 181 | 128 | 309 |
| Total..... | | 367 | 276 | 643 |

* All patients of fifteen years and upwards are classed as adults.

Pensions cases.—Included in the 643 new cases were 2 patients examined for pensions purposes, with the following results:—

Found to be free from active tuberculosis 2

In addition to the above, 36 re-examinations were made for pensions purposes.

During the year the following reports were made in connection with the examination at the tuberculosis clinic (or at their own homes) of ex-servicemen:—

| War Pensions Committee. | 81 B | M.P.M.S. D. 81 A | 36 T.O. | M.P.M.S. D. 122 | Total |
|-------------------------|------|---------------------|---------|--------------------|-------|
| Birkenhead | 5 | *19 | 3 | — | 37 |
| Liverpool | — | — | — | 12 | 12 |
| Total | 5 | 19 | 3 | 12 | 49 |

* Includes 1 visit paid to a pensioner's home.

Examination of contacts.—358 persons who had been in close contact with known cases of tuberculosis were examined either at the clinic or at their homes, and were classified as follows:—

| | | *Adults | Children | Total |
|---|-------------|---------|----------|-------|
| Classed as suffering from respiratory tuberculosis | { Males ... | — | 2 | 2 |
| | { Females | — | — | — |
| Classed as suffering from other forms of tuberculosis | { Males ... | — | — | — |
| | { Females | — | — | — |
| Classed as non-tuberculous..... | { Males ... | 14 | 142 | 156 |
| | { Females | 26 | 159 | 185 |
| Classed as "suspect" | { Males .. | 2 | 5 | 7 |
| | { Females | 4 | 4 | 8 |
| Total... | { Males ... | 16 | 149 | 165 |
| | { Females | 30 | 163 | 193 |
| Total..... | | 46 | 312 | 358 |

* All patients of fifteen years and upwards are classed as adults.

HOME VISITING ; DISINFECTION ; COMPULSORY TREATMENT ; ETC.

During the year the health nurses paid 343 first visits and 2,947 re-visits to the homes of patients.

The number of houses disinfected after death or removal of patients was 135.

Spitting flasks were provided free of charge to 5 patients.

The compulsory removal to hospital for a period not exceeding 3 months of a person suffering from pulmonary tuberculosis in an infectious state and whose condition is a danger to other members of the house is provided for by the Public Health Act, 1925 (Sec. 62).

No action was taken in Birkenhead under this Section during the year.

The power to prevent a person suffering from tuberculosis of the respiratory tract from entering upon any employment or occupation in connection with a dairy which would involve the milking of cows, the treatment of milk, or the handling of vessels used for containing milk, is given to a Local Authority under the Public Health (Prevention of Tuberculosis) Regulations, 1925.

No action was taken under these Regulations in Birkenhead during the year.

THINGWALL SANATORIUM.

Patients dealt with.—At the commencement of the year there were 31 patients in the Sanatorium. There were 43 admissions during the year. These were classified as follows :—

| | |
|--|----|
| Tuberculosis of bones and joints..... | 5 |
| „ abdominal glands or peritoneum | 9 |
| „ cervical and other glands | 9 |
| „ lungs (all non-infectious cases)... | 11 |
| „ skin | 3 |
| „ testes | 2 |
| „ eyes | 1 |
| For observation and diagnosis..... | 3 |

40 patients were discharged or transferred to other institutions : no deaths occurred. The condition on discharge may be summarised as follows :—

| | |
|---|----|
| Disease cured | 1 |
| Disease quiescent | 25 |
| Much improved | 4 |
| Improved | 3 |
| No material improvement | 3 |
| Deteriorated | 1 |
| Found after observation not to be suffering from tuberculosis | 3 |

There were 34 patients under treatment at the end of the year

Treatment.—There were no modifications in the treatment adopted at the sanatorium; prolonged rest and, where possible, immobilisation of the part of the body affected with the disease; good food, fresh air and, in most cases, judicious exposure to both natural and artificial sunlight, are the main curative agents employed.

Average duration of stay.—For the patients discharged during the year the average length of stay in the sanatorium was 47 weeks.

Garden.—The past year was the best so far experienced for garden produce; the potato, carrot and onion crops were especially good and reflect credit on the gardener and outside staff.

Scarlet fever.—During the prevalence of scarlet fever in the district, four boys at the sanatorium developed this disease. The infection was almost certainly brought in by visitors. The cases were transferred to the Infectious Diseases Hospital for treatment and were re-admitted after they had been declared free from infection. No secondary cases occurred.

CHESHIRE JOINT SANATORIUM.

The Cheshire Joint Sanatorium was opened on the 6th November, 1923, for 50% of the approved bed accommodation.

The approved accommodation for Birkenhead cases (32 beds) is now available.

Patients dealt with.—At the beginning of the year 27 Birkenhead patients were under treatment. During the year 50 Birkenhead patients were admitted, 44 were discharged, and 4 died. 29 patients remained under treatment at the end of the year.

| | Men | Women | Children (under 15) | Total |
|---|-----|-------|------------------------|-------|
| In Sanatorium January 1, 1928 | 16 | 11 | — | 27 |
| Admitted during year..... | 25 | 25 | — | 50 |
| Discharged or left Sanatorium during year | 24 | 20 | — | 44 |
| Died in Sanatorium | 2 | 2 | — | 4 |
| In Sanatorium December 31, 1928 ... | 15 | 14 | — | 29 |

LEASOWE HOSPITAL.

The twelve beds reserved by the Corporation at Leasowe Hospital for cases of *surgical tuberculosis* among Birkenhead residents have been in occupation throughout the year.

There were 12 cases in hospital at the beginning of the year; 6 new cases have been admitted during the year, and 7 have been discharged or died; leaving 11 patients in hospital at the end of December.

The localisation of the disease in the 18 patients under treatment during the year was as follows:—

| | |
|-----------------------------|-------|
| Tuberculosis of spine | 8 |
| „ hip | 6 |
| „ knee | 3 |
| „ finger | 1 |
| | <hr/> |
| | 18 |
| | <hr/> |

The 7 cases discharged or died were as follows:—

| | | |
|---------------------------|-------|---------------------|
| Tuberculosis of hip | 3 | quiescent |
| „ finger | 1 | died |
| „ spine | 3 | 1 died; 2 quiescent |
| | <hr/> | |
| | 7 | |
| | <hr/> | |

AFTER-CARE OF THE EX-SANATORIUM CASE.

The after-care of patients who have been discharged from sanatoria is a matter of the greatest practical importance. The routine procedure followed by Dr. Leete, the Clinical Tuberculosis Officer, with regard to such cases on leaving Burntwood Sanatorium is set out below. It will be realised that there is a considerable tendency on the part of the ex-sanatorium patient returning to ordinary surroundings to lapse into habits which may be highly dangerous to himself and to the other members of his household. He must be encouraged at all costs to guard against this tendency if the improvement achieved in sanatorium is to be maintained and the spread of disease to others is to be prevented.

Preparation of the home.—When information is received that a patient is soon to be discharged from sanatorium, a special visit is paid to the home of the patient by the Health Nurse to see what improvements can be effected. Her object is (a) to advise if at all possible that a separate bedroom should be reserved for the use of the patient; failing that, a separate bed and the exclusion of children from close contact with the patient. No child should sleep in a room with a patient in whose sputum tubercle bacilli have been demonstrated within the past five years. If it is impossible to secure this minimum isolation the case is reported with a view to securing better

accommodation, and occasionally this can be arranged. If a separate room can be obtained the Nurse advises about keeping windows open; clearing out the numberless nicknacks, useless articles of furniture, carpets, etc., which use up valuable space and accumulate dust and infection; and on the general rules which must be followed if the patient is to do the best for himself and the others in the house.

Examination at the clinic; employment, etc.—As soon as a patient is discharged, an appointment is made for him to attend at the Tuberculosis Clinic, where he is examined and notes as to his progress made. In about 50% of the cases it is obvious that, despite the decided improvement that is almost always noted, there is still considerable disease which is only too likely to light up into activity on resuming urban life, and particularly if the man returns to his usual occupation. In the majority of cases he is forced by economic necessity to do this. The nature of his work, the possibility of change if this is indicated, care at home, and the carrying out as far as possible of a modified sanatorium regime, are discussed with the patient; and help is given by writing to employers, supplying certificates, and supporting applications for better housing conditions. As a routine the patient is told to report again in three months' time, or earlier should any symptoms occur, or should he find himself in any special difficulties or need of advice. He is encouraged to keep a record of his weight, and may call at any time at the clinic for this purpose.

Examination of other members of the family.—The patient is warned to send at once to the clinic for examination any other members of the family who may be ailing. In the majority of cases the "contacts" have already been examined while the patient was away, but the experience and training of the sanatorium fit the intelligent patient to detect any signs of ill-health which may manifest themselves later on in his family circle.

Patients who are doing well.—At the quarterly re-examinations of the quiescent case who is doing well, his mode of life, work, etc., are discussed and every encouragement is given to him to hope that in all probability the disease will be finally arrested. Hope is what the patient seeks more than anything else. As the case becomes stabilised, half-yearly visits are all that is necessary to assure that everything is going well, provided the patient will report if any unusual symptoms supervene. It is sometimes difficult to secure attendance of patients who are well and working, but as far as possible every effort is made to meet their convenience and get them to attend.

Artificial pneumo-thorax cases.—A number of patients who come out of sanatorium have had an artificial pneumo-thorax performed; that is, a collapse of the affected or the more affected lung by introducing gas between the lung and the chest wall. "Refills" are necessary about every fortnight, and the Medical Superintendent of the Cheshire Joint Sanatorium has arranged for these to be given at the institution. The return fare is a difficulty with most patients, but the trustees of the Corkhill Charity have consented to make grants to patients who could not otherwise attend. Between £70 and £80 per

year is given annually to assist with these fares. The railway companies were asked to allow a reduced return fare for these cases on the ground that the treatment was essentially convalescent, but refused to do so. With the provision of proper X-Ray and operative accommodation it would be possible to do these refills in Birkenhead.

Hospital treatment.—As a result of one or two quarterly examinations it becomes manifest whether the patient is going to “ stabilise ” and continue at work, if he has any (there is a considerable amount of unemployment among our patients quite apart from the medical side of the question) or whether the disease is becoming active again, leading to another breakdown. If the latter, the question of further institutional treatment is considered. In a large number of cases this must be hospital treatment, provided at the local Poor Law Infirmary. Facilities for the provision of sanatorium treatment being limited, and this having already failed to effect arrest of the disease, it is only in exceptional cases that a re-admission is recommended.

Home nursing treatment.—Advanced cases who do not go into hospital have to be looked after at home. Nursing assistance for these cases is given by the Birkenhead District Nursing Society, whose nurses visit the homes.

TABLE T 1.

New cases notified for first time during the year.

| Age periods..... | PRIMARY NOTIFICATIONS | | | | | | | | | | | Total |
|-----------------------------|-----------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| | C-1 | 1-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-35 | 35-45 | 45-55 | 55-65 | 65 and up | |
| Respiratory—Males | — | 3 | 4 | 8 | 9 | 15 | 27 | 29 | 25 | 13 | 5 | 138 |
| Females | — | 2 | 2 | 2 | 14 | 17 | 26 | 18 | 11 | 3 | 1 | 96 |
| Non-respiratory—Males | 8 | 18 | 19 | 8 | 5 | 2 | 3 | — | 1 | 1 | — | 65 |
| Females | 1 | 19 | 10 | 16 | 3 | 7 | 5 | 3 | 1 | 1 | — | 66 |
| Totals..... | 9 | 42 | 35 | 34 | 31 | 41 | 61 | 50 | 38 | 18 | 6 | 365 |

TABLE T 2.

Deaths from tuberculosis during the past fourteen years.

| Year | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Deaths from tuberculosis of the lungs— | | | | | | | | | | | | | | |
| Number | 173 | 177 | 172 | 167 | 146 | 116 | 154 | 141 | 109 | 136 | 123 | 122 | 155 | 150 |
| Rate per 1000 | 1.23 | 1.24 | 1.18 | 1.13 | 0.97 | 0.76 | 1.04 | 0.94 | 0.72 | 0.88 | 0.79 | 0.77 | 0.98 | 0.95 |
| A Males— | | | | | | | | | | | | | | |
| Number | 105 | 104 | 89 | 97 | 73 | 55 | 68 | 77 | 67 | 75 | 61 | 68 | 97 | 82 |
| Rate | 0.74 | 0.72 | 0.61 | 0.65 | 0.48 | 0.36 | 0.46 | 0.51 | 0.44 | 0.48 | 0.39 | 0.43 | 0.61 | 0.52 |
| B Females— | | | | | | | | | | | | | | |
| Number | 68 | 73 | 83 | 70 | 73 | 61 | 86 | 64 | 42 | 61 | 62 | 54 | 58 | 68 |
| Rate | 0.48 | 0.51 | 0.57 | 0.47 | 0.48 | 0.40 | 0.58 | 0.42 | 0.28 | 0.40 | 0.39 | 0.34 | 0.37 | 0.43 |
| Deaths from other forms of tuberculosis— | | | | | | | | | | | | | | |
| Number | 67 | 61 | 69 | 66 | 38 | 56 | 40 | 50 | 43 | 51 | 35 | 39 | 45 | 43 |
| Rate per 1000 | 0.47 | 0.42 | 0.46 | 0.44 | 0.25 | 0.36 | 0.27 | 0.32 | 0.28 | 0.33 | 0.22 | 0.24 | 0.28 | 0.27 |
| A Males (all ages) | | | | | | | | | | | | | | |
| Number | 44 | 36 | 36 | 40 | 24 | 36 | 21 | 25 | 21 | 25 | 17 | 18 | 28 | 28 |
| Rate | 0.31 | 0.25 | 0.24 | 0.27 | 0.16 | 0.23 | 0.14 | 0.16 | 0.14 | 0.16 | 0.10 | 0.11 | 0.18 | 0.18 |
| B Females (all ages) | | | | | | | | | | | | | | |
| Number | 23 | 25 | 33 | 26 | 14 | 20 | 19 | 25 | 22 | 26 | 18 | 21 | 17 | 15 |
| Rate | 0.16 | 0.17 | 0.22 | 0.17 | 0.09 | 0.13 | 0.13 | 0.16 | 0.14 | 0.17 | 0.11 | 0.13 | 0.10 | 0.09 |
| C Children (un. 5 yrs) | | | | | | | | | | | | | | |
| Number | 42 | 44 | 44 | 36 | 22 | 26 | 17 | 21 | 20 | 26 | 22 | 24 | 22 | 21 |
| Rate | 0.29 | 0.30 | 0.30 | 0.24 | 0.14 | 0.17 | 0.11 | 0.15 | 0.13 | 0.17 | 0.13 | 0.15 | 0.13 | 0.13 |
| Deaths from tuberculosis (all forms)— | | | | | | | | | | | | | | |
| Number | 240 | 238 | 241 | 233 | 184 | 172 | 194 | 191 | 152 | 187 | 158 | 161 | 200 | 193 |
| Rate per 1000 | 1.70 | 1.66 | 1.66 | 1.58 | 1.23 | 1.13 | 1.31 | 1.28 | 1.00 | 1.21 | 1.15 | 1.02 | 1.26 | 1.22 |
| <i>Rate per 1000</i> <i>England & Wales</i> | 1.55 | 1.62 | 1.80 | 1.92 | 1.26 | 1.13 | 1.12 | 1.12 | 1.00 | 1.06 | 1.03 | 0.96 | 0.97 | 0.93 |

VENEREAL DISEASES.

ADMINISTRATIVE ARRANGEMENTS.

The diagnosis and treatment of cases of venereal disease have been carried on at the municipal clinic at the Birkenhead General Hospital for the past eleven years. Since 1923 the arrangements have been as set out in the agreement of that year.

At this clinic during the past year Dr. Foster, assisted by Dr. Anderson, has dealt with male patients, and Dr. Deacon, assisted by Dr. Williams, with female patients.

The total number of attendances at the clinic this year showed an increase of 1,078.

Of the 556 new cases, 369 were residents of Birkenhead, 29 were from Cheshire County, 19 from Wallasey, and 77 from India and Burma.

There was again an increase in the number of new female patients suffering from gonorrhœa; and it is satisfactory to be able to report an improvement in the attendance of patients of both sexes at the intermediate treatment clinics.

At the special clinic for children, which was opened at No. 9, Hamilton Square, on 4th October, 1926, Dr. Deacon has been in attendance during the year.

GENERAL NOTES.

Cases dealt with.—(a) General Hospital clinic. During the year 1,283 persons, comprising 861 males and 422 females, were dealt with at the clinic as out-patients. This is an increase of 177 over the figure for 1927.

The total attendances of out-patients was 12,763; the number of in-patient days was 530.

New patients numbered 400 males and 156 females; of these 187 were non-residents of Birkenhead. As is usual in seaports, sailors of many nationalities were treated at the clinic. Natives of Norway, Japan, India, Burma, and U.S.A. attended during the year.

(b) Hamilton Square clinic.—During the year 139 children (69 males and 70 females) were dealt with at the clinic as out-patients, the total attendances made being 1,453.

The new cases seen numbered 87, and were diagnosed as follows—

| | |
|--|----|
| Syphilis (congenital in all cases) | 51 |
| Gonorrhœa | 2 |
| No venereal disease | 34 |

Methods of treatment.—There were no modifications in the treatment of syphilis except that tryparsamide was employed to a greater extent in cases where the nervous system was affected. The arsenobenzenes and bismuth preparations were used as a routine. Two advanced cases of neuro-syphilis were put under the care of Dr. Leslie Cunningham, honorary physician of the Birkenhead General Hospital, who kindly carried out induced malaria treatment.

Notes regarding special cases.—(a) There was one extremely severe case of arsenical dermatitis. The patient, a male, was evidently highly susceptible to arsenic, as he had received only two injections amounting to 0.90 grammes in all. The skin all over the body exfoliated and left a raw oozing surface. Dr. R. W. McKenna very kindly came over to the hospital and saw this case in consultation with Dr. Foster. The patient ultimately made a good recovery.

(b) There was one case of chancre in ano. The patient was a boy of 17, a seaman.

Bacteriological work.—(a) At the clinics 283 smears were examined for the presence of gonococci, 46 specimens were examined for the presence of spirochætes, and 2 were examined for other organisms.

(b) At the University of Liverpool, Professor Beattie examined 1,449 specimens, 723 of these being sent from the municipal clinic at the Birkenhead General Hospital, 113 from the Hamilton Square clinic, and 613 from private medical practitioners and hospitals in the area. Of the specimens sent, 1,435 were for the Wassermann reaction, 13 for the detection of gonococci, and 1 was examined for spirochætes.

Treatment of Birkenhead patients carried out at other treatment centres.—So far as has been ascertained from official returns which have been received from other areas, Birkenhead patients attended other treatment centres as shown in Table V 3.

Issue of arsenobenzene compounds.—Arsenobenzene compounds were issued during the year by the Medical Officer of Health
to the Medical Officers of the treatment centres at the General
Hospital and at No. 9, Hamilton Square
to the Medical Officer, Birkenhead Union Infirmary
to four approved local practitioners

TABLE V I.

Statement showing the services rendered at the Venereal Diseases Clinic at the Birkenhead General Hospital during the year, classified according to the diseases dealt with.

| | Syphilis | | Soft chancre | | Gonorrhoea | | Conditions other than venereal | | Total | |
|--|----------|------|--------------|----|------------------|-----------|--------------------------------|-------------------------|-------|------|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. |
| 1. Number of cases which— | | | | | | | | | | |
| (a) at the beginning of the year under report were under treatment or observation for..... | 246 | 195 | 7 | — | 196 | 56 | — | — | 449 | 251 |
| (b) had been marked off in a previous year as having ceased to attend or as transferred to other centres, and which returned to the treatment centre during the year under report suffering from the same infection .. | 6 | 12 | 1 | — | 5 | 2 | — | 1 | 12 | 15 |
| Total—Items 1 (a) and 1 (b) ... | 252 | 207 | 8 | — | 201 | 58 | — | 1 | 461 | 266 |
| 2 (a) Number of cases dealt with at the treatment centre during the year for the first time | 111 | 81 | 16 | — | 146 | 35 | 127 | 40 | 400 | 156 |
| Total—Items 1 (a), 1 (b) and 2 (a) | 363 | 288 | 24 | — | 347 | 93 | 127 | 41 | 861 | 422 |
| 2 (b) Number of cases included in item 2 (a) known to have received previous treatment at other centres for the same infection | 10 | — | — | — | 13 | — | — | — | 23 | — |
| 3. Number of persons who ceased to attend the out-patient clinic | | | | | | | | | | |
| (a) before completing the first course of treatment for | 6 | 19 | 3 | — | 8 | 8 | — | — | 17 | 27 |
| (b) after one or more courses, but before completion of treatment for | 10 | 14 | — | — | — | — | — | — | 10 | 14 |
| (c) after completion of treatment, but before final tests as to cure, of | 2 | 1 | — | — | 25 | 1 | — | — | 27 | 2 |
| 4. Number of persons transferred to other treatment centres after treatment for..... | 46 | — | 4 | — | 38 | — | — | — | 88 | — |
| 5. Number of persons discharged from the out-patient clinic after completion of treatment and observation for | 3 | — | 6 | — | 17 | 1 | — | — | 26 | 1 |
| 6. Number of persons who, on the 1st January, 1929, were under treatment or observation for ... | 296 | 254 | 11 | — | 259 | 83 | — | — | 566 | 337 |
| Total—Items 3, 4, 5 and 6 | 363 | 288 | 24 | — | 347 | 93 | — | — | 734 | 381 |
| 7. Out-patient attendances— | | | | | | | | | | |
| (a) For individual attention by the Medical Officer | 1950 | 2076 | 116 | — | 1725 | 745 | 406 | 140 | 4197 | 2961 |
| (b) For intermediate treatment—e.g., irrigations, dressings, &c... .. | 64 | — | 72 | — | 4912 | 530 | 27 | — | 5075 | 530 |
| Total attendances .. | 2014 | 2076 | 188 | — | 6637 | 1275 | 433 | 140 | 9272 | 3491 |
| 8. Aggregate number of “in-patient days” of treatment given to persons who were suffering from | 92 | 217 | 50 | — | 50 | 115 | — | 6 | 192 | 338 |
| 9. Examinations of pathological material— | | | | | For detection of | | | For Wassermann reaction | | |
| | | | | | Spirochaetes | Gonococci | Other organisms | | | |
| | | | | | 46 | 283 | 2 | — | | |
| (a) Specimens which were examined at, and by the medical officer of, the treatment centre | | | | | — | — | — | | | |
| (b) Specimens from persons attending at the treatment centre, which were sent for examination to an approved laboratory ... | | | | | — | — | — | 723 | | |

TABLE V 3.

Statement showing particulars of Birkenhead cases treated at Venereal Diseases Clinics in other areas.

| Name of town | No. of patients | Disease | Attendances at out-patient clinic | No. of in-patient days | Doses of arsenobenzene compounds given in | |
|--|-----------------|---|-----------------------------------|------------------------|---|-----------------------|
| | | | | | Out-patient clinic | In-patient department |
| Liverpool (David Lewis Northern Hos.) | 6 | Syphilis 6 | 255 | — | 198 | — |
| (Stanley Hos.) | 1 | Conditions other than venereal 1 | 1 | -- | — | — |
| (Royal Infirm.) | 5 | Syphilis 1 Gonorrhœa 1 Conditions other than venereal 3 | 196 | — | 53 | — |
| (Seamen's Dispensary) | 34 | Syphilis 10 Soft chancre 2 Gonorrhœa 22 | 1231 | — | 63 | — |
| (Royal Southern Hospital) | 4 | Syphilis 1 Gonorrhœa 3 | 122 | — | 9 | — |
| Greenwich | 4 | Syphilis 3 Conditions other than venereal 1 | 4 | 3 | — | — |
| Hull | 1 | Conditions other than venereal 1 | 2 | — | — | — |
| Wallasey | 2 | Gonorrhœa 1 Conditions other than venereal 1 | 12 | — | — | — |

OTHER INFECTIOUS DISEASES.

INFECTIOUS DISEASES WHICH ARE NOTIFIABLE.

The infectious diseases which (in addition to tuberculosis, already dealt with) were compulsorily notifiable to the Medical Officer of Health at any time during the past year are set out in Tables I 1 and I 2 below.

TABLE I 1.

Infectious diseases other than tuberculosis notified during 1928;
showing seasonal incidence.

| Disease | Jan. | Feb. | Mar. | Apl. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|--|------|------|------|------|-----|------|------|------|-------|------|------|------|-------|
| Smallpox | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Scarlatina | 12 | 15 | 16 | 28 | 10 | 12 | 34 | 45 | 77 | 140 | 111 | 101 | 601 |
| Diphtheria and membra- nous croup | 23 | 20 | 8 | 10 | 12 | 12 | 12 | 8 | 9 | 10 | 9 | 9 | 142 |
| Erysipelas | 7 | 3 | 9 | 4 | 10 | 10 | 4 | 6 | 5 | 6 | 10 | 4 | 78 |
| Typhus fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Typhoid fever | — | — | — | 2 | — | 1 | 1 | 1 | — | 1 | — | 3 | 9 |
| Continued fever..... | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Relapsing fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cerebro-spinal meningitis | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Encephalitis lethargica (acute)..... | — | — | 2 | 2 | 1 | — | 1 | — | 3 | 3 | — | 1 | 13 |
| Polio-encephalitis (acute) | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Poliomyelitis (acute)..... | — | — | — | — | — | — | — | — | 1 | 1 | — | — | 2 |
| Puerperal pyrexia | — | 2 | — | 3 | 1 | — | — | 3 | 2 | 11 | 7 | 2 | 31 |
| Puerperal fever | 1 | — | — | 1 | 1 | — | 4 | 1 | 2 | 1 | — | 1 | 12 |
| Ophthalmia neonatorum | — | — | — | 3 | 1 | 2 | 3 | 2 | 3 | 3 | 4 | 2 | 23 |
| Cholera | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Pneumonia | 113 | 91 | 61 | 33 | 29 | 38 | 25 | 24 | 33 | 36 | 41 | 49 | 573 |
| Malaria | — | — | 2 | — | 1 | — | 1 | 1 | — | — | 2 | — | 7 |
| Dysentery | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Trench fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 156 | 131 | 98 | 86 | 66 | 75 | 85 | 91 | 135 | 212 | 184 | 172 | 1491 |

TABLE I 2.

Infectious diseases other than tuberculosis notified during 1928;
showing ages.

| Disease | und. 1 yr. | 1-2 yrs. | 2-3 yrs. | 3-4 yrs. | 4-5 yrs. | 5-10 yrs. | 10-15 yrs. | 15-20 yrs. | 20-35 yrs. | 35-45 yrs. | 45-65 yrs. | 65 yrs. up | Total |
|--|---------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|---------------|---------------|---------------|------------------|-------|
| Smallpox | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Scarlatina | 6 | 15 | 18 | 30 | 34 | 252 | 156 | 41 | 36 | 7 | 6 | — | 601 |
| Diphtheria and membra- nous croup | 2 | 3 | 12 | 10 | 13 | 48 | 13 | 18 | 14 | 7 | 1 | 1 | 142 |
| Erysipelas | 2 | — | 1 | — | — | 2 | 4 | 4 | 5 | 12 | 31 | 17 | 78 |
| Typhus fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Typhoid fever | — | — | — | — | 1 | 2 | — | 1 | 3 | 1 | 1 | — | 9 |
| Continued fever..... | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Relapsing fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cerebro-spinal meningitis | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Encephalitis lethargica (acute)..... | — | — | — | — | — | 1 | — | — | 5 | 2 | 4 | 1 | 13 |
| Polio-encephalitis (acute) | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Polio-myelitis (acute). ... | — | 1 | — | 1 | — | — | — | — | — | — | — | — | 2 |
| Puerperal pyrexia | — | — | — | — | — | — | — | 2 | 20 | 9 | — | — | 31 |
| Puerperal fever | — | — | — | — | — | — | — | 1 | 8 | 3 | — | — | 12 |
| Ophthalmia neonatorum | 23 | — | — | — | — | — | — | — | — | — | — | — | 23 |
| Cholera | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Pneumonia..... | 77 | 61 | 39 | 29 | 21 | 74 | 26 | 30 | 89 | 48 | 54 | 25 | 573 |
| Malaria | — | — | — | — | — | — | — | 1 | 2 | 4 | — | — | 7 |
| Dysentery | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Trench fever | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 110 | 80 | 70 | 70 | 69 | 379 | 199 | 98 | 182 | 93 | 97 | 44 | 1491 |

Case-rates of certain diseases.—The case-rates of certain diseases for Birkenhead, and for England and Wales, per 1,000 living, are set out below:—

| | Case-rate per 1,000 living. | |
|-------------------------|-----------------------------|-------------------|
| | Birkenhead | England and Wales |
| Smallpox | — | 0.32 |
| Scarlet fever | 3.80 | 2.61 |
| Diphtheria | 0.89 | 1.55 |
| Enteric fever | 0.05 | 0.09 |
| Puerperal pyrexia | 0.19 | 0.14 |
| Puerperal fever | 0.07 | 0.06 |
| Erysipelas | 0.49 | 0.42 |

Encephalitis lethargica.—13 cases were notified during the year. Of these 10 cases were treated in general hospitals and 3 were treated at home. 8 cases recovered and 5 cases died (F. 8 years, F. 62 years, and F. 67 years, died at home, and M. 30 years, and F. 56 years, died in a general hospital).

The annual figures relating to notification of this disease are as follows:—

| | |
|------------|----|
| 1919 | 4 |
| 1920 | 2 |
| 1921 | 3 |
| 1922 | 3 |
| 1923 | 14 |
| 1924 | 12 |
| 1925 | 13 |
| 1926 | 7 |
| 1927 | 7 |
| 1928 | 13 |

Cerebro-spinal fever.—No cases were notified during the year.

Smallpox.—There were no cases of smallpox notified in Birkenhead during the year. This disease was, however, present in epidemic form in many parts of England throughout the whole year, no less than 12,420 cases being notified.

DISINFECTION.

Books.—202 Public Library books were collected from infected houses and disinfected.

Dwellings.—481 house-disinfecting notices were served; 629 houses or parts of houses were disinfected during the year.

Bedding and clothes.—Infected bedding and clothes were collected from 658 dwellings and disinfected. In 41 further cases infected or discarded bedding and clothes were destroyed.

Visits and revisits paid to houses, etc., by the Infectious Diseases Inspector.—3,925 visits and revisits to property were made during the year in connection with disinfection after infectious diseases (including tuberculosis).

VACCINATION.

The following is the latest completed information relative to vaccination in the Borough and relates to children whose births were registered from 1st January, 1927, to 31st December, 1927, viz.:—

| | |
|--|------|
| No. of births | 2943 |
| Successfully vaccinated | 1923 |
| Insusceptible | 17 |
| Had smallpox | — |
| Number in respect of whom statutory declarations of conscientious objection have been received | 531 |
| Died unvaccinated | 207 |
| Postponements, removals, or cases not found, etc..... | 265 |

ISSUE OF DIPHTHERIA ANTITOXIN.

During the year, in accordance with the provisions of the Diphtheria Antitoxin (outside London) Order, 1910, diphtheria antitoxin was issued to 8 medical practitioners; a total of 136,000 units was given out.

IMMUNISATION AT CLINICS AGAINST DIPHTHERIA.

Since 1926 facilities have been offered to the mothers attending the infant welfare clinics to have their children immunised against diphtheria.

During the year ended 31st December, 1928, 106 children were presented at the various clinics for the first of a course of immunising

injections. Of these, 54 completed the course before the end of the year, 24 had 2 injections and 28 had 1 injection. In addition, 19 children whose treatment was commenced in 1927 were given their final injections, making a total of 73 children completing the course in 1928. From the date of the commencement of the treatment in 1926 until the end of 1928, 217 children have received the full course of 3 or more injections.

Children who have received less than 3 injections cannot be said to have full opportunity of complete immunisation. Experience indicates that about 80% of cases who have had a full course will be immune, while the remaining 20% may require a further short course of treatment.

Details of treatment carried out in 1928 are set out below:—

| Clinic | 1 injection | 2 injections | 3 or more injections | Total | 1927 cases completed | Total |
|-----------------------|----------------|-----------------|----------------------------|-------|----------------------------|-------|
| Hamilton Square | 17 | 16 | 36 | 69 | 13 | 82 |
| Brassey Street | 9 | 5 | 6 | 20 | 4 | 24 |
| St. Paul's Road | 1 | — | 1 | 2 | 1 | 3 |
| Mount Grove | 1 | 3 | 11 | 15 | 1 | 16 |
| Total | 28 | 24 | 54 | 106 | 19 | 125 |

(Note.—For immunisation carried out at the Fever Hospital see page 69.)

HOME NURSING.

The arrangement made between the Corporation and the Birkenhead District Nursing Society, dating from 1st July, 1919, provides for the home nursing of cases of influenza and pneumonia. During the year 1928 the Society's nurses paid 955 visits in respect of 61 cases.

INFECTIOUS DISEASES HOSPITAL.

Cases treated during 1928.—At the beginning of the year there were 52 patients in the Infectious Diseases Hospital, Flaybrick Hill.

During the year 526 new cases were admitted; so that the cases under treatment in hospital at any time during 1928 numbered 578.

There were 499 discharges and 8 deaths during the year; leaving 71 patients in hospital on 31st December, 1928.

The diseases treated, together with the sex of the patients and particulars as to recoveries and deaths, are shown below.

TABLE I 3.

| Patients sent in as suffering from | In hospital at beginning of year | Admitted during year | Died during year | Discharged cured during year | Remaining in hospital at end of year |
|---------------------------------------|--|-------------------------|---------------------|------------------------------------|--|
| Scarlet fever M. | 7 | 139 | — | 121 | 25 |
| F. | 18 | 250 | 2 | 232 | 34 |
| Diphtheria M. | 14 | 51 | 3 | 57 | 5 |
| F. | 13 | 75 | 2 | 80 | 6 |
| Enteric fever M. | — | 3 | 1 | 2 | — |
| F. | — | 2 | — | 1 | 1 |
| Mumps M. | — | 1 | — | 1 | — |
| F. | — | 1 | — | 1 | — |
| Measles M. | — | 1 | — | 1 | — |
| F. | — | 2 | — | 2 | — |
| Anthrax ... M. | — | 1 | — | 1 | — |
| F. | — | — | — | — | — |
| Total | 52 | 526 | 8 | 499 | 71 |

Final diagnosis (all cases).—The final diagnosis arrived at in connection with the 507 patients who were discharged from, or died in, hospital during the year was as follows:—

| | |
|--|-----|
| Scarlet fever | 341 |
| Diphtheria | 97 |
| Tonsillitis | 23 |
| Measles | 4 |
| Peritonsillar abscess | 4 |
| Laryngismus | 4 |
| Erythema | 3 |
| Vincent's angina | 3 |
| Paratyphoid " B " | 2 |
| Tonsillitis with spasmodic croup | 1 |
| Tonsillitis in carrier | 1 |
| Diphtheria carrier | 1 |
| *Scarlet fever and rubella | 1 |
| Sepsis, after tonsillectomy | 1 |
| Typhoid | 1 |
| Hydronephrosis | 1 |
| Urticaria | 1 |
| Carrier of a virulent bacilli | 1 |
| Mumps | 1 |
| Constipation | 1 |
| Scalds | 1 |
| Osteomyelitis of jaw | 1 |
| Anthrax | 1 |
| Rheumatic fever | 1 |
| Pemphigoid | 1 |
| No obvious disease | 10 |

507

*Both present on admission.

Scarlet fever.—Of the cases who were discharged from, or died in, hospital during the year 355 had been sent in as suffering from scarlet fever. Of these 339 were found actually to be suffering from the disease. Of the latter cases, 1 died from the disease; this gives a case mortality of 0.3%. Death occurred in a child admitted as scarlet fever, but suffering from scalds. A Coroner's inquest was held on this child.

Complications.—The complications met with among the 339 completed cases were as follows:—

| | |
|---|------|
| 32 suffered from rhinitis | 9.4% |
| 21 suffered from secondary adenitis | 6.2% |
| 16 suffered from otorrhœa | 4.7% |
| 11 suffered from arthritis | 3.2% |
| 4 suffered from bronchitis | 1.2% |
| 4 suffered from secondary sore throat | 1.2% |
| 3 suffered from albuminuria | 0.9% |
| 3 suffered from peritonsillar abscess | 0.9% |
| 2 suffered from jaundice | 0.6% |
| 1 suffered from scarlatinal nephritis | 0.3% |
| 1 suffered from valvular disease of the heart | 0.3% |
| 1 suffered from thrush | 0.3% |
| 1 suffered from pleurodynia | 0.3% |
| 1 suffered from myocarditis | 0.3% |
| 1 suffered from abscess of foot | 0.3% |
| 1 suffered from orbital cellulitis | 0.3% |
| 1 suffered from vaginitis | 0.3% |

Average stay in hospital.—The average length of stay in hospital of all cases notified as scarlet fever was 31.7 days. For an uncomplicated case the usual period of isolation has been about 4 weeks; but during the epidemic in the latter part of the year patients who were free from infection were discharged on the 28th day of the disease instead of the 28th day in hospital.

Type of disease.—The type of disease remains fairly mild. Complications have been relatively few, and have in only a few cases been serious. The lower length of stay in hospital was due to the earlier discharging of cases, as stated above, rather than to a milder type of the disease.

The use of antiscarlatinal serum.—As in previous years, antiscarlatinal serum has been used in severe or toxic cases.

During the past year, however, investigations have been carried out with a view to ascertaining the usefulness of this form of treatment in ordinary cases (*i.e.*, mild or moderately severe non-toxic cases) with special reference to the alleviation of symptoms, the diminution from the incidence of complications, and the shortening of the course of the disease.

From the beginning of July onwards these "ordinary" cases were treated half with serum and half without, cases on admission being put alternately in one or the other class without special selection.

The following table compares the two classes with relation to *length of stay in hospital*, taken over the whole year. A minimum of

28 days from the onset of the disease was enforced in all cases, and no case was discharged until free from infectious complications such as otorrhœa.

| | Received serum | Did not receive serum |
|--------------------------------|-------------------|--------------------------|
| No. of patients | 82 | 245 |
| No. of days in hospital | 2388 | 8244 |
| Average stay in hospital | 29.1 | 33.6 |

The *incidence of complications* is shown below:—

| | Serum 82 cases | No serum 245 cases |
|----------------------------|-------------------|-----------------------|
| No complications | 66 (84.9%) | 175 (71.4%) |
| Rhinitis | 3 (3.6%) | 22 (8.9%) |
| Otorrhœa | 2 (2.4%) | 12 (4.7%) |
| Adenitis (secondary) | 2 (2.4%) | 14 (5.7%) |
| Arthritis | — | 11 (4.3%) |

This investigation is being continued during 1929. There appears to be some reason to regard the routine use of the serum as being of distinct practical value as an agent for diminishing complications and speeding up the process of recovery.

Immunisation against scarlet fever.—Dr. Claude Rundle, medical superintendent of the Fazakerley Hospital, Liverpool, testifies that the degree of immunity effected by toxin injections in the protection of the nursing staff against scarlet fever has been very striking. On joining the staff, 115 nurses have received prophylactic treatment by three or more graded doses of toxin. Of these, two only have developed scarlet fever at a subsequent period of their training, and in both there is good ground for believing that a more adequate dosage would have rendered them insusceptible. These results compare very strikingly with those of the years immediately preceding inoculation, when no fewer than 11 nurses developed scarlet fever, of whom one died.

Dr. H. Stanley Banks, medical superintendent of the Leicester city isolation hospital, writes:—

“ If an adequate dose of the serum is administered intravenously about the second day of the disease, a severely inflamed and swollen throat will clear up and the rash disappear in 12 to 24 hours, complications will be rare, and desquamation will be slight or absent. Consequently the period of infectivity will be cut short, and the duration of residence in hospital or of treatment at home can be shortened by at least a third, probably more. In face of these advantages the cost of an average dose of the serum, about £1 15s. per case, is negligible.”

Diphtheria.—

| | |
|--|------|
| Cases discharged or died, notified as diphtheria | 142 |
| Cases found to be suffering from diphtheria on admission | *97 |
| Deaths from diphtheria | 4 |
| Case mortality rate approximately..... | 4.1% |

*This does not include (a) a case in which the bacillus diphtheriæ was found, but which presented no clinical signs of the disease; (b) another case where the patient was a carrier suffering from tonsillitis.

Another death occurred in a man admitted as diphtheria, but found to be suffering from hydronephrosis with œdema glottidis.

Of those cases which terminated fatally, 3 died within 24 hours of admission.

Tracheotomy.—18 cases showed signs of laryngeal obstruction on admission, and it was found necessary to perform tracheotomy in 7 of these. 4 recovered and 3 died. Tracheotomy was also performed in the case of hydronephrosis.

Average stay in hospital.—The average length of stay in hospital of all cases notified as diphtheria was 37.8 days.

Complications.—The complications met with among the 97 completed cases of diphtheria were as follows :—

| | |
|------------------------------|---|
| Paralysis—late cardiac | 7 |
| palatal | 6 |
| legs | 3 |
| ciliary | 1 |
| Bradycardia | 3 |
| Tachycardia | 3 |
| Albuminuria | 1 |
| Hæmaturia | 1 |
| Convulsions | 1 |
| Rhinorrhœa (severe) | 1 |
| Enteritis | 1 |
| Gastritis | 1 |
| Vaginitis | 1 |

Importance of early diagnosis.—The importance of early diagnosis and early application of appropriate treatment in cases of diphtheria can hardly be overstated. Cases recognised and sent into hospital many days after the onset of the disease stand a comparatively poor chance.

In this connection it is worthy of note that of the 10 cases which developed *paralysis* in one form or another

- 2 were admitted to hospital on the 5th day of illness
- 2 were admitted to hospital on the 6th day of illness
- 1 was admitted to hospital on the 8th day of illness
- 1 was admitted to hospital on the 9th day of illness

Again, of the 7 cases in which *tracheotomy* had to be performed—

- 3 were admitted to hospital on the 5th day of disease
- 1 was admitted to hospital on the 7th day of disease
- 1 was admitted to hospital on the 11th day of disease.

In every case of “ sore throat ” in children medical advice should be obtained at once. It should be remembered that in diphtheria the symptoms are often much less severe at the onset than in a case of ordinary tonsillitis.

Case mortality.—This is slightly lower this year, but as was pointed out in the annual report for 1927, the number of cases dealt

with is too small to enable accurate conclusions to be drawn as to changes in the severity of the disease.

Immunisation.—(a) The immunisation of members of the staff and patients suffering from diseases other than diphtheria has been continued. In addition, other children (*e.g.*, the brothers or sisters of patients) have been immunised at the request of parents. The following table shows the work done at the hospital during the year 1928 as regards Schick testing and immunisation:—

| | No. tested | No. positive | No. negative | Immunisation completed |
|---------------------------|------------|--------------|--------------|------------------------|
| *Staff | 12 | 7 | 5 | 4 |
| Patients and others | 54 | 25 | 29 | 2 |
| (over 15 years of age) | | | | |
| Patients and others..... | 330 | 173 | 157 | 75 |
| (under 15 years of age) | | | | |
| Totals..... | 396 | 205 | 191 | 81 |

*Three members of the staff who were Schick positive left before immunisation could be completed.

In addition, 51 children were in course of being immunised at the end of the year.

(b) Schick testing of certain children who had been previously immunised was carried out. 10 children were re-tested. None were found to have a marked reaction; 4 were found to have a partial positive reaction and received another dose of immunising mixture; 6 were found to be immune.

Other diseases.—

Enteric fever.—4 cases were discharged or died in 1928; the diagnosis was confirmed in 3 of these. 1 case terminated fatally, death being due to intestinal perforation. The 2 non-fatal cases were diagnosed as suffering from paratyphoid B. fever.

Measles.—3 cases were admitted and discharged in 1928. All recovered; all the cases were uncomplicated.

Anthrax.—1 case was admitted and discharged in 1928. The patient was treated by excision of the pustule and the administration of serum.

Mumps.—2 cases were admitted from institutions during 1928. The diagnosis was confirmed in 1 case, but not in the other.

General.—Scarlet fever was specially prevalent during the last six months of the year. Of the 353 cases discharged during the year, 266 were admitted between July 1st and December 5th.

Diphtheria was similar in its incidence to 1927, the slight increase being due to patients admitted late in 1927 and remaining into 1928.

Training of nurses.—Courses of instruction for the examinations of the General Nursing Council have been continued. 1 nurse passed the final (fever nursing) examination of the General Nursing Council, and 2 the preliminary examination.

Infectious illness among the staff.—1 probationer nurse contracted diphtheria and made a good recovery.

E. P. Smith memorial fund.—No case received assistance from this fund during the year.

Accommodation.—The probability of severe strain being placed on the resources of the institution, pointed out last year, has been realised. Extra beds had to be introduced into all scarlet fever pavilions, and the slight overcrowding resulting probably explains the increase in the complication rates as compared with last year.

MUNICIPAL LABORATORY.

Examination of clinical material.—The nature and number of the examinations of clinical material made at the Municipal Laboratory during 1928 is shown in the following table:—

| Examination | Pos. | Neg. | Total |
|---|------|------|-------|
| Sputum for B. tuberculosis | 117 | 404 | 521 |
| Cultures for B. diphtheriæ | 95 | 575 | 670 |
| Blood tests (Widal) against enteric group | 7 | 6 | 13 |
| | 219 | 985 | 1204 |

Other examinations were made as follows:—

| | |
|-----------------------------|----|
| Fæces for B Typhosus | 2 |
| Urine for B. Typhosus | 2 |
| Urine | 35 |
| Miscellaneous | 33 |
| | 72 |

Bacteriological examinations of water.—Examinations of the Alwen water supply were carried out at the laboratory during the year, on the lines indicated in my annual report for 1924. In all, 91 complete bacteriological examinations were made, samples being taken from the mains, and from the Alwen reservoir before and immediately after filtration.

The results obtained have again been very satisfactory and indicate that the water supply maintains its high level of bacteriological purity.

Bacteriological examination of milk.—(A) *The testing of graded milks.*—During the year the regular bacteriological examination of milk was carried out. 136 samples were examined. The work is undertaken primarily because of the introduction into the Borough of “designated milks” as laid down in the Milk (Special Designations) Order, 1923. These milks are:—

- (1) Certified milk.
- (2) Grade A (tuberculin tested) milk.
- (3) Grade A milk.
- (4) Pasteurised milk.

The bacteriological examinations consist of:—

- (a) The enumeration of the micro-organisms present per cubic centimetre.
- (b) Examination for the presence of B. coli in specified quantities of milk.

The examination of certified milk is carried out at the request of, and for, the Ministry of Health, who grant licences for the production of this milk.

The Grade A milks are examined for the Corporation, who grant the licences for the retailing of this class of milk.

In addition to the designated milks, other samples of milk have been examined from time to time, but no routine examination is carried out on ordinary milk, for which no standard of bacteriological purity has been laid down.

The results obtained are set out on pages 38 and 39 of this report.

(B) *The examination of milk for tubercle bacilli.*—The procedure followed in connection with the examination of milk for tubercle bacilli was explained in my last annual report.

MENTAL DEFICIENCY.

ADMINISTRATIVE ARRANGEMENTS.

Cases of mental deficiency fall into two categories—

- (a) Those which can be dealt with under the Mental Deficiency Acts, 1913 and 1927; for these the Mental Deficiency Committee is responsible.
- (b) Those which can be dealt with under the Elementary Education (Defective and Epileptic Children) Acts, 1899 and 1914; for these the Education Committee is responsible.

CASES COMING WITHIN THE PROVISIONS OF THE MENTAL DEFICIENCY ACTS, 1913 and 1927.

The following classes of persons who are mentally defective are deemed to be defectives within the meaning of the Mental Deficiency Acts, 1913 and 1927*:

- (a) Idiots; that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers;
- (b) Imbeciles; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, *or, in the case of children, of being taught to do so*;
- (c) Feeble-minded persons; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, *or, in the case of children, that they appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools*;
- (d) Moral imbeciles; that is to say, persons in whose case there exists mental defectiveness coupled with strongly vicious or criminal propensities and who require care, supervision and control for the protection of others.

Note.—The definition “mental defectiveness” means a condition of arrested or incomplete development of mind *existing before the age of eighteen years*, whether arising from inherent causes or induced by disease or injury.

It will be seen from the above definitions that certain special provisions are made with regard to children. Briefly, the effect of these is that a mentally defective child remains under the care of the Local Education Authority if he can be taught in one of the schools provided by that authority—the term “ordinary” in paragraph (c) being taken to include “special” schools for mentally defective children.

The Local Education Authority must, however, give notice to the Local Mental Deficiency Authority in the case of all children over the age of seven

*The revised definitions are those given in the Mental Deficiency Act, 1927.

- (a) who have been ascertained to be incapable by reason of mental defect of receiving benefit or further benefit in special schools or classes, or who cannot be instructed in a special school or class without detriment to the interests of the other children, or as respects whom the Board of Education certify that there are special circumstances which render it desirable that they should be dealt with under this Act by way of supervision or guardianship;
- (b) who on or before attaining the age of sixteen are about to be withdrawn or discharged from a special school or class, and in whose case the local education authority are of opinion that it would be to their benefit that they should be sent to an institution or placed under guardianship.

The Special School for mentally defective children provided by the Local Education Authority is referred to in another section of this report (page 114). An After-Care of Committee carries out general supervision in connection with children on leaving this school; the number of cases being dealt with at the end of 1928 was 201.

During the past year 12 new cases came under the care of the Mental Deficiency Committee.

3 cases were sent to institutions by judicial orders.

5 cases were placed under supervision pending institutional vacancies arising; 7 cases were placed under home supervision; 1 case died during the year.

24 first visits and 343 revisits were paid to the homes of mental defectives by the Health Nurses.

At the end of the 1928 there were under the care of the Mental Deficiency Committee 346 cases, as set out in the following table:—

In institutions (placed by the Mental Deficiency Committee under judicial orders)—

| | Males | Females | Total |
|--|-------|---------|-------|
| Ashton House (Birkenhead) | 0 | 2 | 2 |
| Birkenhead Union Institution | 6 | 6 | 12 |
| Caterham Institution (Surrey) | 1 | 0 | 1 |
| Chester Union Institution | 0 | 2 | 2 |
| Royal Albert Institution (Lancaster) | 7 | 2 | 9 |
| Sandlebridge Colony (Cheshire) | 1 | 4 | 5 |
| Stoke Park Colony (Bristol) | 3 | 3 | 6 |
| Dungates Institution (Sussex) | 1 | 0 | 1 |
| Newtown Institution (Caersws) | 1 | 0 | 1 |
| | 20 | 19 | 39 |

In institutions (placed by the Birkenhead Board of Guardians, or by parents; not under judicial order)—

| | | | |
|--|----|----|----|
| Birkenhead Union Institution | 7 | 9 | 16 |
| Sandlebridge Colony (Cheshire) | 1 | 1 | 2 |
| County Mental Hospital (Cheshire) | 1 | 1 | 2 |
| Royal Albert Institution (Lancaster) | 6 | 2 | 8 |
| | 15 | 13 | 28 |

| | | | |
|--|-----|-----|-----|
| In Rampton State Institution (placed by Board of Control—cases which have become too violent for retention in ordinary institutions) | 3 | 1 | 4 |
| Under home supervision— | | | |
| (a) Cases discharged from institutions on “ licence ” | 4 | 6 | 10 |
| (b) Cases which should be in institutions | 19 | 12 | 31 |
| (c) Others (including ex-Special School cases, 201 in number) | 143 | 89 | 232 |
| Under guardianship | 0 | 2 | 2 |
| | 166 | 109 | 275 |
| Total | 204 | 142 | 346 |

Scarcity of institutional accommodation.—It will be seen that in the above table 31 cases at present under home supervision are classed as cases which should be in institutions. Adding to these the 28 cases which are in institutions but are not under order, and for which provision should be made by the Local Mental Deficiency Authority, we have a total of 59 cases, as at the end of 1928, for whom institutional accommodation should be provided.

The difficulties which have been experienced in endeavouring to discover accommodation for these cases, and the urgent need for the provision of adequate local accommodation, were fully discussed in my annual report for 1925.

CASES DEALT WITH UNDER THE ELEMENTARY EDUCATION (DEFECTIVE AND EPILEPTIC CHILDREN) ACTS, 1899 and 1914.

The cases of mental deficiency in children which come under the care of the Local Education Authority are children over the age of 7 and under the age of 16 who, not being imbecile, and not being merely dull or backward, are defective; that is to say, children who by reason of mental defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, *but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as may be provided by the Local Education Authority for mentally defective children.*

CASES COMING WITHIN THE PROVISIONS OF THE BLIND PERSONS ACT, 1920.

The following classes of persons are included in the category of mental defectives by the Ministry of Health for the purposes of the Blind Persons Act, 1920:—

Blind persons suffering from epilepsy, fits or nervous disability.

WELFARE OF THE BLIND.

ADMINISTRATIVE ARRANGEMENTS.

An amended scheme was prepared during the year by the Health Committee, and after being passed by the Town Council on 4th July, 1928, received the approval of the Ministry of Health.

The scheme, which came into operation on the 1st September, 1928, provides that the Health Committee shall be the responsible Authority for the administration of Section 2 of the Act, comprehending within its sphere of activities all aspects of the work, economic, medical, social, financial and educational (without prejudice to the powers retained to the Education Committee under Sub-section 6 of Section 2 of the Blind Persons Act).

Appointment of Sub-Committee—(a) The new scheme provides for the appointment of a Blind Persons Act Sub-Committee of the Health Committee, to consist of:—

- (1) The Chairman, the Deputy Chairman and three members of the Health Committee, one of whom shall be the Council's representative on the Cornwallis Street Institution's Committee; the Chairman of the Sub-Committee to be a member of the Health Committee.
- (2) One representative appointed by the Education Committee.
- (3) Two representatives appointed by the Board of Guardians.
- (4) One representative, preferably resident in Birkenhead, appointed by the Cornwallis Street Institutions.
- (5) One representative to be nominated by the National League of the Blind and one representative to be nominated by the Liverpool Branch of the National Institute of the Blind.

Work of the Sub-Committee.—The Health Committee shall through this Sub-Committee be empowered to act, where this may appear desirable in certain aspects, in co-ordination with neighbouring boroughs at a central area point of administration, *i.e.*, the Liverpool Cornwallis Street Institutions with which is amalgamated the Birkenhead Society for the Blind.

(Note.—The Cornwallis Street Institutions are an independent body approved by the Ministry of Health as a Centre at which neighbouring boroughs can co-ordinate their work of promoting the welfare of the blind of the area, the principle under which co-ordination is suggested being equal representation and proportionate expenditure.)

The work of the Sub-Committee will include:—

- (i) investigating by arrangement with the Authorities concerned all applications by or on behalf of blind persons requiring aid, whether such applications are made direct to the Sub-Committee, to the Relieving Officers of the Board of Guardians, to Societies for the Blind, or to visitors to the Blind, provided that nothing herein contained shall be deemed to relieve such

Relieving Officers of their statutory duties with respect to the relief of temporarily urgent cases, which cases, however, shall be reported forthwith to this Sub-Committee;

- (ii) recommending and arranging for assistance in money or in kind in regard to education, technical training, employment and general welfare of the Blind, including hospital treatment for sick cases, suitable institutional treatment for those requiring special care, cases for industrial training in training homes, and supervision or arranging for the supervision of the recipients of such assistance.

Registration.—The Medical Officer shall keep a register of all blind persons in the Borough, which register shall be submitted to the Sub-Committee from time to time, together with reports of the Medical Officer concerning cases for which provision has been made in institutions or otherwise.

Care of children under school age.—The Medical Officer shall make arrangements for children under school age to be visited periodically by the Health Nurses.

Education of children between 5 and 16 years of age.—The Sub-Committee shall refer the case of any child between 5 and 16 years of age to the Education Committee, whose duty it is to provide for the education of any such child.

Education and training of young persons and adults.—The Sub-Committee will confer when desirable with the Education Committee in regard to the education and training of any young persons and adults needing special training.

(Note.—The Health Committee acting from a central administration point, *i.e.*, the Home Teaching Society's Headquarters, will arrange for the provision of home teaching for blind persons residing in their own homes, and instruction in reading raised types, craft, etc. The whole of the time of one of the Society's home teachers will be allocated to Birkenhead (this officer will be attached to the staff of the Medical Officer.)

Employment, additional financial help, and hostel accommodation.—Arrangements have been made with the Liverpool Workshops for the Blind for promoting the welfare of the employable blind in the terms indicated below:—

- (a) for the provision of employment of trained blind persons in the Cornwallis Street workshops at standard rates of wages and benefits, pending the establishment of local branch workshops at present under consideration.
- (b) the augmentation of the wages of blind persons employed.
- (c) the provision, in suitable cases, of home employment for those who, for lack of accommodation, cannot obtain admission to a workshop, or for some other satisfactory reason cannot attend a workshop.

- (d) the provision and maintenance of hostel accommodation for those being trained or employed in approved workshops who, for lack of housing accommodation, or for some other satisfactory reason, require such provision.

(Note.—Paragraph (d) is included for information only, the facilities to be provided thereunder for persons under training coming within the jurisdiction of the Local Education Authority.)

The Health Committee have arranged for a quarterly report to be submitted to the Medical Officer of Health by—

- (a) The Liverpool Workshops for the Blind, and
- (b) The Liverpool and Birkenhead Home Teaching Society, setting out in detail particulars of the individual Birkenhead cases dealt with during the quarter and the precise nature of the services rendered to each case.

Financial assistance to necessitous blind persons.—Necessitous blind persons ordinarily resident in the Borough who have attained the age of 21 years will be granted such financial assistance as may be necessary to ensure that they will each have an income of 27/6 per week.

Necessitous blind persons who are under 21 years of age will be granted such financial assistance as the Blind Persons Act Sub-Committee deem desirable.

The following **regulations** under which financial assistance will be granted to blind residents of the Borough have been made by the Health Committee:—

- 1.—Necessitous blind persons ordinarily resident in the Borough who have attained the age of 21 years shall be granted such financial assistance as may be necessary to ensure that they will have an income of 27/6 per week. The amount of financial assistance to be granted will be determined without reference to the dependants of applicants.
- 2.—In the case of a man and wife who are both blind, residing in the same house, such financial assistance will be granted as may be necessary to ensure that they will have a joint income of £2 2s. 0d. per week.
- 3.—Applications for financial assistance will be dealt with by the Blind Persons Act Sub-Committee of the Health Committee and the said Sub-Committee shall have full powers to disallow claims and discontinue allowances as they in their absolute discretion shall decide.
- 4.—To be eligible for receipt of financial assistance a person must be so blind as to be unable to perform any work for which eyesight is essential. Provision will be made for the medical examination of all applicants applying for financial assistance, and for the reference to an ophthalmic surgeon of any case, at the discretion of the Medical Officer of Health.
- 5.—Employable blind persons coming within the provisions of the National Insurance Acts are not eligible for assistance under these regulations.

- 6.—Assistance will only be granted to blind persons who are capable of employment conditional upon the applicant submitting to the Blind Persons Act Sub-Committee satisfactory evidence that he has made all reasonable endeavours without success to obtain employment.
- 7.—Financial assistance will not be granted to persons who are suitable for training and who refuse to avail themselves of existing facilities for training.
- 8.—Further to qualify for financial assistance:—
 - (a) As regards nationality, that for at least the preceding 10 years he has been a British subject. A woman, however, who would, but for her marriage with an alien, have fulfilled this condition, may receive assistance.
 - (b) As regards residence (with the reservations specified hereunder) that he has for a period of 3 years immediately prior to the date of making application for assistance, resided in the Borough of Birkenhead.
 - (i) Blind persons coming to reside in Birkenhead and who have been in receipt of financial assistance under a scheme of a Local Authority for the welfare of the Blind up to the time they changed their residence, shall be eligible to receive financial assistance under this scheme, the amount of such assistance not to exceed the amount they were previously in receipt of until they fulfil the residential qualification.
 - (ii) Where the Blind Persons Act Sub-Committee are satisfied that an applicant is genuinely resident in the Borough, but who has not completed the stipulated period of residence, the Sub-Committee may, in exceptional circumstances and in order to avoid hardship, grant financial assistance.
- 9.—In dealing with the property of a claimant which is not personally used or enjoyed by him, *e.g.*, a house in which he does not reside, stocks, shares and investments, the total capital value is to be ascertained. Of the ascertained value £25 is to be ignored, and the yearly value of the remainder obtained by dividing any capital sum not exceeding £375 by 20, and any excess over £375 by 10. Thus, when considering applications for financial assistance the amount of the income actually derived from property of this kind is immaterial, the assessment of yearly value being based upon a fixed proportion of capital value.
- 10.—When the claimant is one of a married couple living together in the same house, each of the couple is deemed to be entitled to one-half of any property jointly or severally owned by them, and one-half of the total joint means is taken to be the means of either of them.
- 11.—Earnings will be assessed as far as possible on the basis of actual receipts. In the absence of satisfactory information as to the probable receipts during the ensuing year, the amount received during the previous year will be taken,

- 12.—If any person has directly or indirectly deprived himself of any income or property in order to qualify himself for the receipt of assistance under the scheme, or for the receipt of assistance at a higher rate than that to which he would otherwise be entitled, that income or the yearly value of that property is reckoned as part of his means.
Sick pay.—No account to be taken of any amounts received by husband or wife during a period of not more than three months in any year, under a medical certificate as sickness benefit from a friendly society or trade union or under the National Health Insurance Act.
Furniture, etc.—No account will be taken of the furniture and personal effects of a person, whatever may be the value thereof.
- 13.—A blind person coming within the jurisdiction of the Poor Law Authorities will be disqualified from receiving financial assistance except in the case of a blind person who is provided by the Poor Law Authorities with medical treatment in his own home.
- 14.—Persons in receipt of financial assistance intending to reside outside the Borough for a longer period than 14 days must notify the Medical Officer of Health at least 7 days before leaving their home.
- 15.—Claimants will be required to give evidence of age. The best evidence is a certificate of birth; failing this, evidence may be afforded by a certificate of baptism and certificate of marriage, family Bible, etc.
- 16.—(a) Where any person, being either a person who may be entitled to financial assistance, or a person by whom, or on whose behalf a claim has been made, or a person who has been granted assistance, is by reason of blindness or other incapacity unable to act, an application *may be* made to the Blind Persons Act Sub-Committee for the appointment of a person, not under 21 years of age (whether the applicant or any other person) to exercise on behalf of the person unable to act any right to which that person may be entitled under these regulations, and to receive on behalf and for the benefit of that person any sums which may become payable to that person by way of assistance.
 (b) On any such application as aforesaid the Blind Persons Act Sub-Committee may, if they are satisfied that the person proposed to be appointed is a fit and proper person to act on behalf of the incapacitated person and is willing so to act, appoint him to act accordingly.
- 17.—Financial assistance will commence to accrue on the first Friday after the date in which the claim is received by the Medical Officer of Health, or on the first Friday after the date on which the claimant first becomes entitled to financial assistance, whichever date is the later.
- 18.—(a) Persons who have been granted financial assistance will receive a certificate signed by the Borough Treasurer stating the weekly amount which they are entitled to receive,

(b) The weekly grants will be paid at the Town Hall, on Friday in each week, on the production of the certificate above referred to, between the hours of 10 a.m. and 12-30 p.m.

- 19.—A person who desires to apply for financial assistance must obtain a form of claim from the Medical Officer of Health's Office, 9, Hamilton Square, Birkenhead, fill up the form and return it to the Medical Officer of Health. The claim will be investigated and submitted to the Blind Persons Act Sub-Committee for decision.

At the end of the year 148 blind persons (69 males and 79 females) were in receipt of financial assistance under this scheme.

GENERAL FACTS REGARDING BLIND PERSONS IN BIRKENHEAD.

Number and ages of blind persons.—The total number of blind persons in Birkenhead coming within the scope of the Blind Persons Act, 1920, on 31st March, 1929, was 219; of these 118 were males and 101 females.

| Age. | | | M. | | F. | | Total. |
|---------|-----|-----|-----|-----|-----|-----|--------|
| 0— 5 | ... | ... | — | ... | — | ... | — |
| 5—16 | ... | ... | 3 | ... | 5 | ... | 8 |
| 16—21 | ... | ... | 2 | ... | — | ... | 2 |
| 21—30 | ... | ... | 6 | ... | 6 | ... | 12 |
| 30—40 | ... | ... | 7 | ... | 2 | ... | 9 |
| 40—50 | ... | ... | 17 | ... | 10 | ... | 27 |
| 50—60 | ... | ... | 18 | ... | 13 | ... | 31 |
| 60—70 | ... | ... | 34 | ... | 34 | ... | 68 |
| Over 70 | ... | ... | 31 | ... | 31 | ... | 62 |
| Total | | | 118 | ... | 101 | ... | 219 |

Age incidence of blindness.—So far as can be ascertained the age of onset of blindness is set out below:—

| Age at onset of blindness | | | M. | | F. | | Total. |
|---------------------------|-----|-----|-----|-----|-----|-----|--------|
| 0— 1 | ... | ... | 17 | ... | 12 | ... | 29 |
| 1— 5 | ... | ... | 3 | ... | 6 | ... | 9 |
| 5—10 | ... | ... | 4 | ... | 3 | ... | 7 |
| 10—20 | ... | ... | 10 | ... | 7 | ... | 17 |
| 20—30 | ... | ... | 6 | ... | 3 | ... | 9 |
| 30—40 | ... | ... | 11 | ... | 5 | ... | 16 |
| 40—50 | ... | ... | 11 | ... | 10 | ... | 21 |
| 50—60 | ... | ... | 17 | ... | 19 | ... | 36 |
| 60—70 | ... | ... | 21 | ... | 19 | ... | 40 |
| Over 70 | ... | ... | 13 | ... | 11 | ... | 24 |
| Not ascertained | ... | ... | 5 | ... | 6 | ... | 11 |
| Total | | | 118 | ... | 101 | ... | 219 |

Blind persons who are otherwise defective.—Twenty-four of the blind persons on the register were handicapped in addition by other physical or mental defects:—

| | M. | | F. | Total. |
|--------------------------------|----------|-----|----------|----------|
| Mentally defective ... | 4 | ... | 2 | 6 |
| Deaf ... | 2 | ... | 3 | 5 |
| Deaf and dumb ... | 1 | ... | 1 | 2 |
| Otherwise physically defective | 5 | ... | 6 | 11 |
| | <hr/> 12 | ... | <hr/> 12 | <hr/> 24 |

Children under 16 years of age.—These numbered 8; 3 boys and 5 girls. 2 boys and 4 girls were attending school; 1 boy and 1 girl were not attending school.

Conditions as regards employment.—The following table shows the position of blind persons in the area over the age of 16 with reference to employment:—

| | M. | | F. | Total. |
|---|-----------|-----|----------|-----------|
| Employed ... | 19 | ... | 2 | 21 |
| Trained but unemployed... | 6 | ... | 2 | 8 |
| Under training ... | 1 | ... | — | 1 |
| Not trained, but probably trainable ... | 5 | ... | 7 | 12 |
| Probably unemployable ... | 84 | ... | 85 | 169 |
| | <hr/> 115 | | <hr/> 96 | <hr/> 211 |

The occupations of the employed blind in the area were as follows:—

| | | | | |
|------------------------------|-----|-----|-----|-------|
| Agents, collectors, etc. ... | ... | ... | ... | 1 |
| Basket and cane workers | ... | ... | ... | 5 |
| Brush makers ... | ... | ... | ... | 4 |
| Mat makers ... | ... | ... | ... | 1 |
| Home teachers ... | ... | ... | ... | 1 |
| Knitters ... | ... | ... | ... | 1 |
| Musicians and music teachers | ... | ... | ... | 1 |
| Newsvendors ... | ... | ... | ... | 1 |
| Tuners ... | ... | ... | ... | 3 |
| Miscellaneous ... | ... | ... | ... | 3 |
| | | | | <hr/> |
| Total ... | ... | ... | ... | 21 |

Home visiting of blind persons.—The Health Nurses paid 62 first visits and 539 revisits to blind persons in the area.

HOUSING AND GENERAL SANITATION.

ADMINISTRATIVE ARRANGEMENTS.

The staff engaged on the work of housing and general sanitary inspection consisted, at the end of the year, of the Chief Inspector, one housing inspector, and eight sanitary inspectors.

The eight sanitary inspectors are required to devote approximately half their time to the work of housing inspection.

GENERAL.

Area of the Borough.—The area of the Borough (land and inland water) was at the time of the 1921 census 3,924 statute acres. This area is largely built over, or otherwise occupied, by domestic buildings, docks, factories, railway stations, and siding, etc. The area of the extended borough (as from 1st April, 1928) is 6,016 acres.

Number of dwelling houses in the Borough.—The approximate number of dwelling houses of all descriptions within the Borough, excluding institutions, on 31st December, 1928, was 31,008.

New dwellings erected, 1921-1928.—The new dwellings erected in the Borough between the date of the census and the end of 1928 were as follows:—

| | | |
|------|--|--------|
| (1) | Between the date of the census and 31st December, 1927 | |
| (a) | With State assistance under the Housing Acts, 1919-1925 | |
| (i) | By the Local Authority | 1408 |
| (ii) | By other bodies or persons | 565 |
| (b) | Other | 429 |
| | | — 2402 |
| (2) | During 1928 | |
| (a) | With State assistance under the Housing Acts, 1919 or 1925 | |
| (i) | By the Local Authority | 244 |
| (ii) | By other bodies or persons | 44 |
| (b) | Other | 122 |
| | | — 410 |
| | Total | 2812 |
| | | — |

1 house was erected during the year which did not comply with the building byelaws. (This was a bungalow on small holdings.)

Uninhabited property.—The following is a return of uninhabited property in Birkenhead for the past year:—

| Districts | Half-year ended 30th June, 1928 | | | | | Half-year ended 31st Dec., 1928 | | | | |
|----------------------------|---------------------------------|-------|----------|---------------|-------|---------------------------------|-------|----------|---------------|-------|
| | Private houses | Shops | Cottages | Dock cottag's | Total | Private houses | Shops | Cottages | Dock cottag's | Total |
| Birkenhead | 9 | 9 | — | — | 18 | 17 | 18 | — | — | 35 |
| Cloughton and Oxtou | 63 | 5 | 2 | 44 | 114 | 72 | 8 | — | 105 | 185 |
| Tranmere and Rock Ferry... | 108 | 9 | — | — | 117 | 80 | 3 | — | — | 83 |
| Added Areas | 3 | — | — | — | 3 | — | — | — | — | — |
| Total .. | 183 | 23 | 2 | 44 | 252 | 169 | 29 | — | 105 | 303 |

The total uninhabited and unoccupied property, 31st December, 1927, was 355, so that there was a decrease of 52 at the end of 1928 as compared with the previous year.

ADMINISTRATIVE ACTION TAKEN IN CONNECTION WITH HOUSING AND GENERAL SANITATION.

(a) Mainly under Housing Acts.

During the twelve months ending December 31st, 1928, the following work was carried out by the department under the provisions of the Housing Acts and Regulations (the arrangement is based on that suggested by the Ministry of Health):—

Inspection.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) ; all these houses were also recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing (Consolidated) Regulations, 1925 1324

(2) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation 45

(3) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation 1100

Remedy of defects without service of formal notices.

Number of defective dwelling-houses rendered fit in consequence of *informal* action by the local authority or their officers 5

Action under statutory powers.

A. *Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs 1095

(2) Number of dwelling-houses which were rendered fit after service of formal notices—

| | |
|---|------------------|
| (a) by owners | |
| (1) Houses in respect of which notices were served during 1928 | 399 |
| (2) Houses in respect of which notices were served prior to 1st January, 1928 | 685 |
| (b) by local authority in default of owners | 90 |
| Total | <hr/> 1174 <hr/> |

(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declarations by owner of intention to close 5

B. Proceedings also taken under the Public Health Acts in connection with above properties.

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 453

(2) Number of dwelling-houses in which defects were remedied after service of formal notices—

| | |
|---|-----|
| (a) by owners | 441 |
| (b) by local authority in default of owners ... | — |

C. Proceedings under sections 11, 14 and 15 of the Housing Act, 1925.

(1) Number of representations made with a view to the making of closing orders 45

(2) Number of dwelling-houses in respect of which closing orders were made 39

(3) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit —

(4) Number of dwelling-houses in respect of which demolition orders were made 3

(5) Number of dwelling-houses demolished in pursuance of demolition orders 5

(6) Number of dwelling-houses demolished after the making of closing orders, but without service of demolition orders 5

(b) Mainly under Public Health Acts.

In addition to the housing work outlined above, other work, of which the following is a summary, was carried out by the inspectors during the year. (The work of scavenging, removal of refuse, and care of sewers is entirely dealt with by the Borough Engineer and Surveyor's department.)

| | |
|--|-------|
| Number of houses inspected (not included in preceding section) | 9365 |
| Number of re-inspections of houses | 57836 |
| Number of unhealthy conditions reported and investigated | 7107 |
| Number of formal notices given | 1392 |
| Number of informal notices given | 3919 |
| Number remedied after formal notice and without proceedings | 1392 |

| | |
|--|-----|
| Number of cases in which proceedings had to be taken | 18 |
| Number abated after proceedings | 18 |
| Defects referred for action:— | |
| (a) to Borough Engineer and Surveyor | 253 |
| (b) to Water Engineer | 270 |
| (c) to Borough Treasurer | 74 |
| Number of excavations made for the purpose of testing the condition of house drains..... | 203 |
| Number of smoke tests applied to drains of premises reconstructed under the supervision of this department | 291 |
| Number of water tests applied to drains | 107 |
| Number of smoke tests applied to the drains of new buildings, in conjunction with the Borough Engineer and Surveyor's department | 247 |
| Number of smoke observations taken | 17 |
| Number of smoke nuisances from factory and other chimneys reported to the Health Committee..... | 3 |
| Number of schools specially examined by the sanitary inspectors | 38 |
| Number of cowsheds inspected | 39 |
| Number of inspections of dairies and milkshops | 594 |
| Number of inspections <i>re</i> offensive trades | 211 |
| Number of sewer ventilators inspected | 19 |
| Number of street gullies inspected | 14 |
| Number of caravans inspected | 225 |
| Number of caravans re-inspected | 189 |
| Number of back passages inspected | 39 |
| Number of investigations regarding the keeping of pigs, fowls, and other animals | 24 |
| Miscellaneous inspections (not included above) | 540 |

(c) Actual defects in domestic dwellings dealt with under (a) and (b) above.

The following is a summary of sanitary improvements effected at dwelling houses during the year under the provisions of the Public Health and Housing Acts:—

| | | | |
|--|------|--|------|
| <i>Houses—</i> | | New sash cords provided ... | 1662 |
| Roofs repaired | 1882 | Window fasteners renewed... | 602 |
| Chimney stacks pointed or repaired | 584 | Windows made to open | 324 |
| Rainwater gutters repaired or renewed | 628 | Firegrates repaired | 907 |
| Down spouts repaired or re- newed | 352 | Ovens repaired or renewed... | 263 |
| Down spouts disconnected from drains | 32 | Plastering to firegrates re- paired | 738 |
| Walls pointed or repaired ... | 2264 | Hearthstones repaired or re- newed | 303 |
| Lighting improved | 73 | Floors relaid or repaired..... | 1742 |
| Ventilation improved | 81 | Skirting boards repaired or renewed | 195 |
| Windows repaired | 684 | Wall plaster repaired | 2982 |
| | | Ceiling plaster repaired | 1287 |

| | | | |
|--------------------------------|------|---------------------------------|------|
| Walls cleansed | 1287 | Drains disconnected from | |
| Ceilings cleansed..... | 1146 | sewer | 16 |
| Doors repaired..... | 866 | Drains—inspection chambers | |
| Door fasteners repaired or re- | | provided | 9 |
| newed | 1796 | Drains ventilated | 20 |
| Sinks repaired or renewed ... | 152 | Drains cleansed | 852 |
| Sink waste pipes repaired ... | 351 | Self-cleansing gulleys provided | 87 |
| Sink waste pipes trapped ... | 12 | <i>Water closets—</i> | |
| Washing boilers repaired ... | 376 | Roofs repaired..... | 529 |
| Washing boilers—new pans | | Walls repaired..... | 543 |
| provided | 48 | New basins fixed..... | 209 |
| Washing boilers—firegrates | | Connections repaired | 535 |
| repaired | 260 | Cisterns repaired or renewed. | 169 |
| Washing boilers—flues repaired | 74 | New flush pipes fixed..... | 16 |
| Dampness remedied | 98 | Provided with a sufficient | |
| Nuisances from animals abated | 44 | supply of water | 111 |
| Yard surfaces relaid or re- | | Doors repaired or renewed ... | 413 |
| paired | 1043 | Seats repaired or renewed... | 186 |
| Yard surfaces—proper means | | <i>Ashpits—</i> | |
| of drainage provided | 1 | Provided with roofs | 16 |
| Sufficient water supply pro- | | Provided with doors | 58 |
| vided | 15 | Roofs repaired..... | 77 |
| <i>Drainage—</i> | | Walls repaired..... | 160 |
| New drains constructed | 71 | Cemented inside .. | 36 |
| Old drains reconstructed..... | 178 | Abolished..... | 379 |
| Drains repaired | 222 | Ashbins provided..... | 1453 |
| | | <i>Miscellaneous—</i> | |
| | | (not included above) | 3514 |

(d) Increase of Rent and Mortgage Interest (Restriction) Acts, 1920-1923.

During the year no applications for certificates under section 2 of the Act were received.

(e) Theatres, music halls, &c.

(Ministry of Health Circular No. 120, dated 25th August, 1920).

33 visits were made to theatres, music halls and other places of entertainment, with a view to ascertaining whether conditions as to ventilation, structure of dressing rooms, &c., were satisfactory.

(f) Rats and mice.

The following is a summary of the work carried out by the district inspectors under the provisions of the Rats and Mice (Destruction) Act, 1919:—

| | |
|---|-----|
| No. of premises inspected | 153 |
| No. of visits and revisits | 255 |
| No. of notices served on occupiers | 137 |
| No. of notices served on owners | 84 |
| No. of premises satisfactorily dealt with | 79 |
| No. of premises still under observation or where work is being carried out | 5 |

(g) Inspection of lodging houses, &c.

During the year the inspector of common lodging houses, &c. paid regular visits to common lodging houses, and houses let in lodgings, and to the Corporation tenement dwellings.

| | |
|---|------|
| Registered common lodging houses (15 in number): | |
| Day inspections | 2773 |
| Night inspections | 105 |
| Insanitary conditions reported and dealt with | 19 |
| Houses let in lodgings (333 in number): | |
| Day inspections | 1675 |
| Night inspections | — |
| Insanitary conditions reported and dealt with | 188 |
| Corporation tenement dwellings (132 in number): | |
| No. of visits | 2774 |
| Insanitary conditions reported and dealt with | 242 |

FACTORIES, WORKSHOPS AND WORKPLACES.**FACTORY AND WORKSHOP ACTS, 1901 AND 1907.**

The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his annual report to the Council to report specifically on the administration of that Act in workshops and work-places. The following is a summary of the work carried out during the year.

1.—Inspection of factories, workshops and workplaces.

| Premises | No. of | | |
|---|-------------|-----------------|--------------|
| | Inspections | Written notices | Prosecutions |
| Factories (including Factory Laundries) | 23 | 6 | — |
| Workshops (including Workshop Laundries) ... | 1044 | 98 | — |
| Workplaces (other than Outworkers' premises)... | 39 | 1 | — |
| Total..... | 1106 | 105 | — |

2.—Defects found in factories, workshops and workplaces.

| Particulars | No. of defects | | | Number of prosecutions |
|--|----------------|----------|----------------------------|------------------------|
| | Found | Remedied | Referred to H.M. Inspector | |
| <i>Nuisances under the Public Health Acts*—</i> | | | | |
| Want of cleanliness | 120 | 120 | — | — |
| Want of ventilation | 1 | 1 | — | — |
| Overcrowding | — | — | — | — |
| Want of drainage of floors | — | — | — | — |
| Other nuisances... .. | 22 | 22 | — | — |
| Sanitary accommodation— | | | | |
| Insufficient | 1 | 1 | — | — |
| Unsuitable or defective | 27 | 27 | — | — |
| Not separate for sexes | 3 | 3 | — | — |
| <i>Offences under the Factory & Workshops' Acts—</i> | | | | |
| Illegal occupation of underground bake-house (s. 101)... .. | — | — | — | — |
| Other offences | 7 | 7 | 7 | — |
| (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.) | | | | |
| Total..... | 181 | 181 | 7 | — |

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Home work.—Lists were received from employers as follows:—

From employers sending twice in the year—3 lists (7 workmen).

From employers sending once in the year—4 lists (2 contractors, 8 workmen).

In each case the work handled was the making of wearing apparel.

Registered workshops.—The workshops on the register at the end of the year were:—

| | |
|-------------------------------------|-------|
| Bakehouses | 62 |
| Confectioners | 58 |
| Boot repairers | 56 |
| Cabinet making and upholstery | 28 |
| Dressmaking | 38 |
| Millinery | 21 |
| Tailoring | 35 |
| Laundries | 27 |
| Joinery and carpentry | 12 |
| Saddlery and harness making | 7 |
| Smiths | 16 |
| Wagon repairers | 6 |
| Motor and cycle repairers | 8 |
| Other workshops | 57 |
| | <hr/> |
| | 431 |

Other matters.

| | |
|--|----|
| Workshops removed from the register | 31 |
| New workshops opened and placed on register | 25 |
| Underground bakehouses discontinued | — |
| Number of underground bakehouses on the register at the end of the year | 22 |
| Instances of failure to affix abstract dealt with | 7 |

RAG FLOCK ACT, 1911.

Pursuant to the provisions of the above Act, 43 visits were made.

At the time of these visits the rag flock being used or stored on the premises was to all appearance in a satisfactory condition; no samples were, therefore, taken for the purpose of analysis.

POISONS AND PHARMACY ACT, 1908, AND ORDERS, 1909.

Visits were made to 2 shops and premises in the Borough, in which insecticides containing poison were likely to be kept for sale, but no infringement of the Act was reported.

HEALTH EDUCATION.

During the year the educational campaign initiated in 1927 by the appointment of Dr. John Hall, M.A., by the Merseyside Boroughs' Health Education Committee was carried on, Dr. Hall delivering 31 lectures to audiences totalling 2,300, an average attendance of 74, Senior school classes, boys' and girls' clubs, trade union branches and church societies are types of the organisations who have welcomed talks on matters of health given in a popular and informative manner and with a careful exclusion of anything of a morbid nature.

Advantage was taken of the exhibition at a local cinema of a film entitled "The Dangers of Ignorance," which had been approved by the Society of Medical Officers of Health, for short lectures to be given prior to the showing of the film by Dr. Deacon and Dr. Foster on the subject of venereal diseases.

"Better Health" continued to be issued by the Department until October, when it was taken over by the Merseyside Boroughs' Health Education Committee; from this date the whole of the monthly issue allocated to Birkenhead (2,000 copies) was distributed free of charge through the schools and at the clinics. It is certain that this wide and continuous dissemination of information regarding matters of individual and public health treated in an attractive and informative manner must be of great value in building up a "health consciousness" in the community.

MATERNITY AND CHILD WELFARE.

ADMINISTRATIVE ARRANGEMENTS.

General arrangements.—Provision has been made by the local authority for carrying out the requirements of:—

1. The Notification of Births Acts, 1907 and 1915.
2. The Midwives' Acts, 1902 and 1918.
3. The Maternity and Child Welfare Act, 1918.
4. The Nursing Homes Registration Act, 1927.

The authority's scheme now includes:—

1. Inspection of midwives practising in the area.
2. Health visiting.
3. The provision of four postnatal clinics.
4. The provision of an antenatal clinic.
5. The supply of free milk, etc., for necessitous mothers and infants.
6. Home visiting in connection with cases admitted to the Birkenhead Day and Resident Nurseries.
7. The provision of treatment at the Maternity Hospital of cases of complications arising before, during, and after confinement, and of cases of confinement where the home conditions are bad.
8. The payment in whole or in part of fees to medical practitioners called in by midwives to attend to difficult cases of confinement.
9. The payment in whole or in part of fees to midwives in attendance upon temporarily necessitous cases.
10. The provision of home nursing for children under five suffering from certain diseases, and for expectant and nursing mothers.
11. Financial support of certain institutions engaged in work in the interests of mothers and infants belonging to the Borough, namely, The Birkenhead Day and Resident Nurseries, The Birkenhead and Wirral Invalid Children's Association and St. Faith's Home for Mothers and Babies.

The infant welfare or postnatal clinics are held at Hamilton Square, Brassey Street, St. Paul's Road, and Mount Grove. The Hamilton Square clinic was opened in 1916; Brassey Street and St. Paul's Road clinics in 1919; the Mount Grove clinic in 1923.

The antenatal clinic, which is held at No. 9, Hamilton Square, was opened in 1920.

During the past year the number of antenatal clinic sessions was increased from one to two per week.

The arrangements for home nursing came into force on 1st July, 1919. An agreement between the Corporation and the Birkenhead District Nursing Society provides for the nursing at home of cases of ophthalmia neonatorum; of measles, whooping cough, epidemic

diarrhoea, and poliomyelitis in children under the age of five years; and of illnesses of women associated with pregnancy and confinement.

As was pointed out in last year's annual report, the great increase in the work of the centres has taxed severely the accommodation available. This accommodation is mainly makeshift in nature. During 1928 the Maternity and Child Welfare Committee decided on the provision of a properly designed and equipped clinic at the North End of the Borough (this clinic is in course of erection and will be available for use in 1929). Similar provision at the South End is contemplated.

Staff.—The executive medical staff engaged on maternity and child welfare work at the end of the year consisted of Dr. Deacon (antenatal clinic, and Hamilton Square and Brassey Street postnatal clinics; Dr. Leete (St. Paul's Road postnatal clinic); and Dr. Foster (Mount Grove postnatal clinic).

In addition to the Chief Health Nurse and the Inspector of Midwives, the equivalent of the whole time of seven nurses was available for infant welfare work during the year.

Demonstrations, etc., to school children on Mothercraft.—During the year practical demonstrations, etc., on Mothercraft were given by the Health Nurses on the staff of the Department to the senior girls in some of the elementary schools in the Borough; among the subjects dealt with being:—

“ How to bath and dress a baby.”

“ Artificial feeding.”

“ Care of the baby's bottle.”

The Head Teachers of the schools concerned inform me that teaching of this nature has proved very helpful and useful to the scholars.

INSPECTION AND SUPERVISION OF MIDWIVES.

Work under this section is concerned with the administration of the Midwives' Acts, 1902 and 1918; the visiting of the homes of midwives, inspecting their instruments, etc., advising them on the details of their work and on their duties as set out in the above Acts, and in the rules issued by the Central Midwives' Board.

Number of midwives.—During the year 1928, 84 midwives entered their names on the local register as practising in the Borough. Of these, 11 subsequently left the district, and their names have been removed from the register accordingly. 4 midwives gave notice of change of addresses.

Of the 84 midwives, 78 were trained and 6 untrained.

Number of cases attended by midwives.—The cases attended by midwives alone (no doctor being in attendance) numbered 2,533; over three-quarters of the total births in the Borough.

Visits of inspection.—The inspector of midwives paid 169 quarterly and 146 special visits of inspection.

Interviews in office.—60 midwives were interviewed during the year.

Cases of puerperal fever and puerperal pyrexia in practice of midwives.—The inspector investigated 10 cases of puerperal fever and 17 cases of puerperal pyrexia. 4 deaths were certified during the year as having been due to these conditions.

Cases requiring medical help.—388 cases were notified by midwives in which medical aid had been called in, as against 408 last year. The inspector made 162 special enquiries regarding cases requiring medical help.

Notifications received from midwives.—58 cases of stillbirths were notified; 10 cases were notified of infants receiving artificial feeding; 4 cases were notified in which deaths (1 woman and 3 infants) had occurred in the practice of midwives; 3 cases of laying out a dead body were notified.

Supply of silver nitrate to midwives.—Supplies of a colloid preparation of silver nitrate were issued to 4 midwives at cost price.

Ophthalmia neonatorum.—23 cases were notified during the year.

| Notified | Treated at home | Treated in hospital | Vision unimpaired | Vision impaired | Total blindness | Deaths |
|----------|-----------------|---------------------|-------------------|-----------------|-----------------|--------|
| 23 | 15 | 8 | 23 | — | — | — |

Employment of, or subsidy to, practising midwives by the local authority.—No practising midwives are employed or subsidised by the Birkenhead Local Supervising Authority.

HOME VISITING OF EXPECTANT MOTHERS, MOTHERS, AND YOUNG CHILDREN.

Home visiting.—The following is a summary of the visits paid by the health nurses in connection with expectant mothers, mothers, and young children:—

2679 routine first visits were paid to infants.

3392 routine revisits were paid to infants under 1 year.

10700 routine visits were paid to children over 1 year and under 5 years old.

34 first visits and 3 revisits were paid in connection with the investigation of stillbirths.

- 21 cases of ophthalmia neonatorum were visited and kept under supervision.
- 91 first visits were paid to expectant mothers
- 24 revisits were paid to expectant mothers
- 233 visits were made in connection with deaths of infants.
- 4013 visits were made in connection with miscellaneous matters.

Cases reported for special action.—The following cases after being visited were reported for special action:—

- 2 cases were referred to the Invalid Children's Association.
- 1 case was referred to the Society for the Prevention of Cruelty to Children.

POSTNATAL CLINICS.

The main features of the work carried out at these clinics were set out in my annual report for 1923.

At the end of the year the clinics were being held as follows:—

Hamilton Square clinic: Monday and Wednesday afternoons, 2 to 5 p.m.

Brassey Street clinic: Thursday afternoon, 2 to 5 p.m.

St. Paul's Road clinic: Tuesday and Friday afternoons, 2 to 5 p.m.

Mount Grove clinic: Friday afternoon, 2 to 5 p.m.

The following table gives an indication of the work done at the clinics during the year:—

| | Hamilton Sq. (98 sessions) | | Brassey Street (51 sessions) | | St. Paul's Road (99 sessions) | | Mount Grove (51 sessions) | |
|---|-------------------------------|---------------|---------------------------------|---------------|----------------------------------|---------------|------------------------------|---------------|
| | 1st visits | Re- visits | 1st visits | Re- visits | 1st visits | Re- visits | 1st visits | Re- visits |
| Attendances made by infants under 12 months | 386 | 4677 | 280 | 3412 | 278 | 3136 | 142 | 1637 |
| Attendances made by children aged 1—2 years..... | 18 | 1159 | 3 | 687 | 10 | 493 | 1 | 365 |
| Attendances made by children aged 2—5 years..... | 19 | 441 | 15 | 369 | 14 | 168 | 6 | 191 |
| Examinations of children by Doctor..... | 423 | 5452 | 301 | 3377 | 284 | 1696 | 141 | 925 |
| Mothers advised by Doctor regarding their own health... | 57 | 88 | 11 | 99 | 78 | 33 | 17 | 35 |

Voluntary workers—I have again to express appreciation of the valuable services given at the various clinics by voluntary workers, who give up a great deal of their time to this work

Supply of Milk.—Dried milk was sold at the clinics to suitable cases.

During the year supplies of milk were given free under the Milk (Mothers and Children) Order, 1919, to

170 expectant mothers
 42 nursing mothers
 122 children.

Milk is given only to—

- (a) Nursing mothers who are actually suckling their children ;
- (b) Expectant mothers in the last three months of pregnancy ;
- (c) Children up to twelve months whose mothers are unable to nurse them ;

and to these only when the doctors at the clinics have satisfied themselves, by a medical examination of the cases on whose behalf the applications have been made, that the supply is essential on grounds of health.

ANTENATAL CLINIC.

At the end of the year the antenatal clinic at No. 9, Hamilton Square, was held as follows:—

Tuesday and Thursday afternoons, 2 to 5 p.m.

During the year 85 sessions were held, 612 new cases were seen, and 2,490 revisits were made. The total attendances thus numbered 3,102 visits.

Condition with regard to pregnancy.—The condition of the 612 cases with regard to pregnancy, at the time of their first attendance, was as follows:—

- (a) 168 were in their first pregnancy.
- (b) 325 were in their second or subsequent pregnancy (37 of these patients had attended the clinic during a previous pregnancy; 14 had attended during two previous pregnancies; 8 had attended during three previous pregnancies; and 2 had attended during four previous pregnancies.
- (c) 119 were not pregnant (3 attended the clinic for a second year and 1 for a fourth year).

Attendances.—The attendances made during the year were as follows:—

Attendances made by the new cases as classified above:

| | |
|-----|------|
| (a) | 253 |
| (b) | 2657 |
| (c) | 142 |

| | |
|--|----|
| Attendances made during 1928 by patients who were attending the clinic at the end of 1927..... | 50 |
|--|----|

3102

Abnormalities.—The abnormalities or diseases found to be present in the new cases who attended the clinic during 1928 were as follows:—

(a) Women who came to the clinic in their first pregnancy

| Abnormality | No. of cases |
|---|--------------|
| Venereal disease..... | 4 |
| Contracted pelvis (Caesarean section required)..... | 1 |

(b) Women who came to the clinic in their second or subsequent pregnancy

| Abnormality | No. of cases |
|------------------------------|--------------|
| Venereal disease | 12 |
| Albuminuria | 2 |
| Retroversion of uterus | 2 |
| Eclampsia | 1 |
| Rheumatism | 1 |

(c) Women who were not pregnant when they first attended the clinic

| Abnormality | No. of cases |
|--|--------------|
| Debility after confinement..... | 24 |
| Venereal disease | 17 |
| Retroversion of uterus | 8 |
| Rheumatism | 4 |
| Prolapse of uterus | 3 |
| Conditions associated with menopause | 2 |
| Other defects ... | 41 |

Progress of pregnancies.

- (a) Of the 168 women who came in their first pregnancy
 133 were delivered before the end of 1928, having 70 boys and 65 girls (including 2 sets of twins and 7 stillborn children)
 1 had a miscarriage
 3 left the district
 31 were not delivered before the end of the year.
- (b) Of the 325 in their second or subsequent pregnancy
 225 were delivered before the end of the year, having 106 boys and 124 girls (including 5 sets of twins and 11 stillborn children)
 9 had miscarriages
 7 left the district
 84 were not delivered before the end of the year,

Maternity outfits.—5 outfits were lent out and returned during the year.

General remarks.—It should be noted that there has been a steady increase in the numbers of new cases coming to the antenatal clinic year by year since it was opened in 1920; during all this time the clinic has been in the charge of Dr. Mary Deacon.

The increase in numbers for 1928 as compared with 1927 (612 as against 511) is entirely due to an increase in the attendance of women in their *first pregnancy*. The attendance of young mothers at the clinic in growing numbers is a most significant feature; and the steadily increasing co-operation of the midwives of the town with the antenatal clinics is very satisfactory.

OTHER PROVISION MADE BY THE LOCAL AUTHORITY.

Cases dealt with at Maternity Hospital.—During the year 27 cases were admitted into the Maternity Hospital under the terms of the agreement; the number of bed days being 637.

Cases dealt with by the Birkenhead District Nursing Society.—During the year the Society's nurses paid 757 visits to 49 cases, under the agreement between the Society and the Corporation. In addition 682 visits were paid to 58 cases in children under 5 years of age not included in the agreement.

Cases of confinements attended by medical practitioners.—In 111 cases where doctors were called in to difficult cases of confinement the doctors' fees were paid by the Corporation under the provisions of the Midwives' Act, 1918. Recovery of the fees paid was made in 1 case.

Cases of temporarily necessitous cases attended by midwives.—In 52 cases where midwives attended temporarily necessitous cases of confinement the midwives' fees were paid by the Corporation under the provisions of the Maternity and Child Welfare Act, 1918.

AGENCIES ASSISTED BY THE LOCAL AUTHORITY.

The Corporation gives financial support to certain other institutions, etc., for general services rendered in connection with maternity and child welfare work.

Birkenhead Day and Resident Nurseries.—Here accommodation is provided for 17 children.

Birkenhead and Wirral Invalid Children's Association.—Arrangements are made by this association to send children to convalescent

homes, and to provide massage treatment for cases of infantile paralysis, etc.

St. Faith's Home for Mothers and Babies.—Here accommodation is provided for unmarried mothers and their children—22 beds for babies and 12 for mothers.

The grants made by the Corporation to the above agencies for the current financial year were as follows:—

| | |
|--|-------|
| Birkenhead Day and Resident Nurseries | £100 |
| Birkenhead and Wirral Invalid Children's Association | 40 |
| St. Faith's Home for Mothers and Babies | 50 |
| | <hr/> |
| | £190 |
| | <hr/> |

AGENCIES NOT PROVIDED OR ASSISTED BY THE LOCAL AUTHORITY.

Other agencies whose work in Birkenhead touches the welfare of mothers and infants, but which are not provided or assisted by the Birkenhead Corporation, are the following:—

- The Birkenhead Union.
- The Birkenhead and Wirral Children's Hospital.
- The Charity Organisation Society.
- The Society for the Prevention of Cruelty to Children.
- The Naval and Military War Pensions Committee.
- The Sisters of Charity (St. Elizabeth's) Welfare Centre,
Cloughton Road, Birkenhead.
- The Gynæcological Clinic at the General Hospital.

NURSING HOMES.

Under the provisions of the Nursing Homes Registration Act, 1927, no person is allowed, as from 1st July, 1928, to carry on a Nursing Home unless he or she is registered by the Local Supervising Authority.

Maternity Homes which were already in existence at the time of the coming into force of the above Act and were registered under the provisions of the Midwives' and Maternity Homes Act, 1926, were automatically deemed to be registered under the new Act. There were in Birkenhead 9 Homes so registered.

The number of applications received during 1928 under the new Act was 3.

The number of Homes registered—2.

1 application was deferred.

The total number of Nursing Homes registered in the Borough at the end of the year was 12.

No orders were made refusing, and none cancelling, registration.

3 applications were received and granted for exemption from registration—from the Birkenhead General Hospital, the Birkenhead and Wirral Children's Hospital, and the Birkenhead Maternity Hospital.

HEALTH OF SCHOOL CHILDREN

ADMINISTRATIVE ARRANGEMENTS

Staff.—Dr. Deacon, Dr. Williams, Dr. Foster and Dr. Anderson have carried out school medical service duties throughout the year, Dr. Foster having charge of the X-Rays Clinic at the Birkenhead and Wirral Children's Hospital.

Mr. P. Wilson Smith, L.D.S., R.F.P.S. (GLAS.), School Dental Surgeon, and Miss E. M. Warlow, L.D.S., Assistant School Dental Surgeon, have been responsible for dental inspection and treatment during the past year.

Prospective arrangements.

1. *Partially blind children.*—The subject of special educational facilities for partially blind children has been dealt with in previous reports. It is hoped that a special class for such children will be opened at Park Road Council School early in 1929.

2. *Open-air school.*—I regret that I am again unable to record the establishment of an open-air school for the Borough. The need for provision of this kind is now fully recognised and its value has been repeatedly emphasised and discussed in previous annual reports.

It may be worth while, however, to refer here to one or two general considerations which ought to be kept in mind.

(a) The ideal situation for an open-air school is in rural surroundings completely removed from town conditions. The best results cannot be expected from a school placed in, or even on the fringe of, a built-up neighbourhood.

(b) The site should be an ample one and should have a southerly or south-easterly slope. A site well stocked with trees and shrubs is desirable and facilitates nature teaching, etc.

(c) Transport must be provided from the town to a non-residential open-air school by motor buses which collect the children from appointed stations in the morning and bring them back in the evening. An extra mile or two on the length of this journey adds comparatively little to the expense of transport or to the time taken in going to or returning from the school. A little extra distance from the centre of the town should not be regarded as a serious handicap when a site is being selected.

3. *Operative treatment for nose and throat obstruction.*—A scheme for the provision of this treatment at the Birkenhead and Wirral Children's Hospital has been approved of by the Education

Authority and by the Board of Education. It is hoped that this work will be proceeded with at an early date.

4. *Stammering children*.—In the course of medical inspection children afflicted with the defect of stammering or stuttering are frequently met with. This defect varies in degree; it may be slight and clear up without special attention, or it may be so severe as to be a serious handicap to children throughout their school life and afterwards.

A register of stammering children in Birkenhead schools is being prepared, and consideration should be given to the desirability of providing special training for stammerers.

GENERAL NOTES.

Some notes on progress made during recent years may be of interest.

1. *Medical inspections*.—There has been a progressive increase in the number of routine and special examinations made:

| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|-------------------------------|------|------|-------|-------|-------|-------|
| Routine Examinations ... | 7221 | 7529 | 7618 | 7246 | 7713 | 7828 |
| Special Examinations ... | * | * | 3385 | 3283 | 3658 | 4640 |
| Re-Examinations ... | * | * | 5390 | 7381 | 7895 | 7857 |
| Other Routine Inspections ... | ... | ... | ... | ... | ... | 105 |
| Totals ... | ... | ... | 16393 | 17913 | 19266 | 20430 |

*Statistics not taken out in these years.

2. *Eye examinations*.—The number of refractions carried out in recent years is shown below:—

| 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|------|------|------|------|------|------|
| 697 | 567 | 692 | 713 | 921 | 884 |

3. *General defects*.—The percentage of children found at routine inspections to have defects requiring attention was as follows:—

| 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|------|------|------|------|------|------|
| 20·7 | 20·8 | 22·3 | 21·7 | 16·3 | 21·4 |

4. *Skin diseases.*—There has been a progressive decline in cases of ringworm of the scalp :

| 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|------|------|------|------|------|------|
| 214 | 153 | 111 | *111 | 83 | 67 |

*During 1926 the X-Rays apparatus was out of order for about 6 months.

Cases of impetigo have also been fewer, after increasing for several years:

| 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|------|------|------|------|------|------|
| 444 | 473 | 609 | 616 | 475 | 375 |

5. The improvement in the condition of the children as regards cleanliness is maintained.

More examinations were carried out by the nurses during 1928 than in any previous year :

| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 |
|--|-------|-------|-------|-------|-------|-------|
| Average number of visits paid per school | 16·6 | 12·3 | 18·5 | 18·0 | 17·5 | 20·8 |
| Examinations | 23476 | 19696 | 43818 | 40433 | 48193 | 56857 |
| Children recorded as not clean | 7565 | 5218 | 5130 | 3067 | 2669 | 2855 |
| Compulsorily cleansed | ... | 30 | 24 | 17 | 30 | 9 |
| Prosecutions | ... | ... | ... | ... | 1 | ... |

MEDICAL INSPECTION AND TREATMENT (ELEMENTARY SCHOOLS).

(A) INSPECTION.

Number of elementary schools and school children.—The number of elementary schools in the borough is:

| | | |
|-------------------------|----|----------|
| Council Schools | 17 | |
| Voluntary Schools | 18 | Total 35 |

The recognised accommodation of these schools on the 31st December, 1928, was :

| | | |
|-------------------------|--------|--------------|
| Council Schools | 13,858 | |
| Voluntary Schools | 11,817 | Total 25,675 |

The average number of scholars on the rolls during the year was

| | | |
|-------------------------|--------|--------------|
| Council Schools | 12,189 | |
| Voluntary Schools | 11,223 | Total 23,412 |

The average attendance was:

| | | |
|-------------------------|--------|--------------|
| Council Schools | 11,161 | |
| Voluntary Schools | 10,206 | Total 21,367 |

Children inspected.—The following elementary school children were medically inspected during the year:—

| | |
|---|------|
| 1. At Routine Inspections | 7828 |
| 2. At Special Inspections in the ordinary schools | 133 |
| 3. Routine Inspections at the Special Council School | 105 |
| 4. As prospective entrants to the Birkenhead Institute, the Girls' Secondary School, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College and the Catholic Institute | 301 |
| 5. As entrants to the Claughton Road Special School for Mental Defectives | 25 |
| 6. Under the Employment of Children Bye-laws | 69 |
| Total | 8464 |

Re-examination of defective children.—During the year 3,196 re-examinations of defective children were made by the Assistant Medical Officers.

Co-operation of parents.—Parents attended at the examination of 5,569 (71.2 per cent.) of the 7,828 children dealt with at routine inspections; and 288 (95.6 per cent.) of the 301 prospective entrants to secondary schools.

Increasing appreciation of the work of the school medical service is evidenced by a steadily rising percentage of parents' attendances—

| | |
|------------|-------|
| 1922 | 59.2% |
| 1923 | 60.4% |
| 1924 | 62.9% |
| 1925 | 66.7% |
| 1926 | 68.1% |
| 1927 | 70.2% |
| 1928 | 71.2% |

Vaccination.—In the ordinary inspections children were examined as to vaccination marks. Of the 7,828 children examined

| |
|---|
| 1620 (20.7%) showed no marks. |
| 2970 (38.0%) showed one mark. |
| 871 (11.1%) showed two marks. |
| 255 (3.2%) showed three marks. |
| 2112 (27.0%) showed four or more marks. |

The following figures show the percentage of infants vaccinated year by year during the last ten years:

| Year | Percentage |
|------------|------------|
| 1919 | 84.6 |
| 1920 | 81.8 |
| 1921 | 81.7 |
| 1922 | 80.6 |
| 1923 | 78.2 |
| 1924 | 78.9 |
| 1925 | 77.1 |
| 1926 | 76.6 |
| 1927 | 78.6 |
| 1928 | 79.3 |

Infectious diseases.—Enquiry was made at each inspection as to the infectious diseases from which the children had suffered in the past. The information elicited is summarised in Table S 6.

Defects found requiring medical or dental treatment.—Out of the 7,964 children inspected at routine and special inspections, 1,817 were found to have defects requiring medical attention. The defects found were as follows:—

| | Code Group. | Special Cases. |
|---|-------------|----------------|
| <i>Skin Diseases</i> | | |
| Ringworm | 9 | — |
| Scabies | 5 | — |
| Impetigo | 8 | 2 |
| Other diseases | 7 | — |
| <i>Eye Defects</i> | | |
| Defective vision and squint (for further details see Table S 2) | 533 | 48 |
| External eye disease | 34 | 1 |
| <i>Ear Defects</i> | | |
| Defective hearing | 11 | 6 |
| Ear disease | 39 | 5 |
| <i>Nose and Throat Defects</i> | | |
| Enlarged tonsils | 204 | 7 |
| Enlarged tonsils and adenoids | 46 | — |
| Adenoids | 44 | 1 |
| <i>Teeth defects</i> | 554 | 6 |
| <i>Pulmonary Tuberculosis</i> | | |
| Definite | — | — |
| Suspected | 2 | — |
| <i>Non-Pulmonary Tuberculosis</i> | | |
| Glands | 4 | — |
| Other forms | 3 | — |
| <i>Other Defects or Diseases</i> | 403 | 41 |

A full statement regarding the defects found, setting out the number of defective children, is given in Table S 2. In Table S 5 the defective children are classified according to the schools attended.

(B) TREATMENT.

The parents or guardians of all children found at routine examinations to be defective are informed immediately of the need for medical advice or treatment. They are later visited at their homes by the Health Nurses and urged to obtain this advice or treatment, the Assistant Medical Officers making periodical re-examinations in the schools to ascertain what action has been taken.

During the past year the Health Nurses paid 962 visits to the homes of defective children in connection with "following up"—665 first visits and 297 re-visits; and 3,196 re-examinations of defective children were made by the Assistant Medical Officers. In addition, the Nurses paid 27 special visits.

Treatment of children found, at medical inspections held during 1928, to be suffering from defects which required medical attention.—As has been stated above, 1,817 out of 7,964 children examined at routine and special inspections in elementary schools during 1928 were found to be suffering from defects requiring medical attention; of these 1,817, 330 or 18.2 per cent. received treatment before the end of the year.

Details of the various types of ailment treated will be found in Table S 4.

Treatment carried out at the Eye Clinic.—Children who were found by the Assistant Medical Officers to require spectacles, and whose parents were not in a position to secure the necessary attention privately, were seen at the Eye Clinic by Dr. Williams; Mr. Norman Wilson as usual assisting with this work.

During the year 520 new cases were examined, 662 children attended for re-examination, and 810 pairs of spectacles were supplied. The total cost of all the spectacles which were ordered during the year was £155 2s. 7d., of which the parents were expected to pay £148 7s. 2d. The total sum collected during the year (including arrears from previous years) was £132 7s. 8d.

The following is a summary of the visual defects of new cases for whom spectacles were prescribed during the year:—

| First Eye | Second Eye | |
|------------------------------|---------------------------------|-----|
| Hypermetropia | Hypermetropia | 116 |
| Hypermetropia | Normal | 6 |
| Hypermetropia | Hypermetropic astigmatism | 34 |
| Hypermetropia | Mixed astigmatism | 2 |
| Hypermetropic astigmatism .. | Hypermetropic astigmatism .. | 77 |
| Hypermetropic astigmatism .. | Normal | 6 |
| Hypermetropic astigmatism .. | Mixed astigmatism | 5 |
| Myopia | Myopia | 82 |
| Myopia | Normal | 9 |
| Myopia | Myopic astigmatism | 11 |
| Myopia | Mixed astigmatism | 2 |
| Myopic astigmatism | Myopic astigmatism | 23 |
| Myopic astigmatism | Normal | 4 |
| Myopic astigmatism | Mixed astigmatism | 3 |
| Mixed astigmatism | Mixed astigmatism | 14 |
| Mixed astigmatism | Normal | 3 |

397

100 children who were submitted to refraction were found to be emmetropic and not in need of spectacles.

The following conditions were also recorded among the new cases who attended the clinic:—

| | |
|------------------------------------|----|
| Leucoma | 11 |
| Amblyopia | 8 |
| Nystagmus | 3 |
| Coloboma of iris and choroid | 1 |
| Retino-choroiditis | 2 |
| Pseudo-glioma | 1 |
| Right eye undeveloped | 1 |
| Old injury | 1 |

The new cases of strabismus noted during the year were as follows:—

Convergent: Right eye, 29; left eye, 45; alternating, 7.
Divergent: Right eye, 4; left eye, 2.

Blind and partially blind children.

(1) Totally blind children.

At the beginning of 1928 there were 11 *totally blind* children of school age on the register. During the year the names of 2 children were added, leaving 13 at the end of the year.

(2) Partially blind children.

At the beginning of 1928 there were 55 *partially blind* children of school age on the register. During the year the names of 13 children were removed (on their becoming over school age), and 9 new cases were added. At the end of 1928 there were 51 cases on the register. Of these children 24 boys and 26 girls were attending ordinary elementary schools, the visual defect of 1 boy, aged 7, being so bad that he is excluded from school.

| | |
|--|----|
| Myopia | 13 |
| Myopia and nystagmus | 1 |
| Myopic astigmatism | 24 |
| Myopic astigmatism and nystagmus | 2 |
| Corneal nebulæ | 4 |
| Hypermetropic astigmatism and nystagmus | 2 |
| Hypermetropic astigmatism and retino-choroiditis | 2 |
| Hypermetropia and retino-choroiditis | 1 |
| Dislocated lenses | 1 |
| Coloboma of choroid and nystagmus | 1 |
| | — |
| | 51 |
| | — |

Of the 38 children in the myopic group who were on the register in 1927, and who were re-examined during 1928, the visual condition of 13 had grown worse.

Treatment of ringworm carried out at the X-Rays Clinic.—During the year 36 cases were treated for ringworm at the X-Rays Clinic by Dr. Foster. 181 exposures to X-Rays were given. The duration of exposure is carefully checked by the use of pastilles, and averaged 15 minutes.

It may be noted that one child under school age—a girl aged 3½ years—was successfully treated by means of thallium acetate.

Treatment carried out at the General School Clinic.—Details of the work of this clinic, where cases of external eye disease, ear inflammation, skin disease, etc., are treated, will be found in Table S 4.

The number of children who received treatment at the Clinic was 3,246; the total attendances numbered 13,460.

Treatment carried out at the Orthopædic clinic.—This clinic, which was opened in November, 1925, was held in the premises of the Birkenhead and Wirral Invalid Children's Association at 43 Hamilton Square.

The surgeon, Dr. Hartley Martin, attended on the third Saturday in each month; and extra clinics were held in June, October, November and December because of the large number of cases requiring re-examination. The after-care sister attended weekly.

The clinic deals with all forms of crippling disease in children. The cost of the clinic is distributed as follows:—

- (a) Tuberculous cases (all ages): Health Committee.
- (b) Non-tuberculous cases under school age: Maternity and Child Welfare Committee.
- (c) Non-tuberculous cases of school age: Education Committee.

During 1928, 154 new cases were dealt with, as compared with 102 in the previous year :

| | |
|-------------------------|-------|
| Tuberculous cases | 11 |
| Non-tuberculous cases— | |
| Under school age | 89 |
| Of school age | 53 |
| Over school age | 1 |
| | <hr/> |
| | 154 |

There were 452 re-examinations made, as compared with 358 in 1927 :

| | |
|-------------------------|-------|
| Tuberculous cases | 67 |
| Non-tuberculous cases— | |
| Under school age | 144 |
| Of school age | 223 |
| Over school age | 18 |
| | <hr/> |
| | 452 |

Even with the extra examinations referred to above, the average number of cases seen by the Surgeon per session has risen from 36 in 1927 to 47 in 1928. This is more than can be efficiently dealt with; and it has been decided that during the coming year Clinics will be held fortnightly.

Attendances for massage or remedial exercises were made as follows:

| | |
|-------------------------|------|
| Tuberculous cases | 13 |
| Non-tuberculous cases— | |
| Under school age | 701 |
| Of school age | 2462 |
| Over school age | 35 |

In the following table Dr. Hartley Martin sets out a classification of cases dealt with, and shows the results of treatment:

| Diagnosis | Remaining 1927 | 1928 New cases | | | Remaining 1929 | | | Discharges 1928 | | | | | |
|--------------------------|----------------|-------------------|----|------|-------------------|-----|------|-----------------|----------|---------------|-------------------|------------|------|
| | | School age | | | School age | | | Cured | Relieved | Left district | Refused treatment | Unsuitable | Died |
| | | | | | | | | | | | | | |
| | | Under | Of | Over | Under | Of | Over | | | | | | |
| Infantile Paralysis | 17 | 4 | 3 | ... | 4 | 16 | 1 | 1 | 1 | ... | ... | ... | 1 |
| Spastic Paralysis | 18 | 4 | 5 | ... | 9 | 18 | ... | ... | ... | ... | ... | ... | ... |
| Rickets | 58 | 53 | 5 | 1 | 69 | 31 | ... | 12 | ... | 2 | 1 | 1 | 1 |
| Tuberculous | 22 | 3 | 7 | 1 | 4 | 22 | 2 | 2 | ... | 1 | 1 | 1 | ... |
| Non-Tuberculous | 6 | ... | 3 | ... | ... | 4 | ... | 1 | 2 | ... | ... | 2 | ... |
| Congenital Deform. | 8 | 9 | 8 | ... | 8 | 15 | ... | 1 | ... | ... | 1 | ... | ... |
| Acquired Deform. | 39 | 12 | 20 | ... | 14 | 43 | 2 | 8 | 2 | 1 | 1 | ... | ... |
| Diagnosis | 7 | 7 | 9 | ... | 2 | 2 | ... | ... | ... | ... | 1 | 17 | 1 |
| Totals... .. | 175 | 92 | 60 | 2 | 110 | 151 | 5 | 25 | 5 | 4 | 5 | 21 | 3 |

Dr. Martin says : “ It will be seen that the disease category, rickets, is still the strongest numerically. Although some of these cases which are referred to the Invalid Children’s Association for artificial light and cod liver oil are in the early or pre-deformity stage, there are a great number of cases seen which require operative treatment. This would suggest the need for still more effective ascertainment, as it is definitely established that such deformities can be corrected, if the disease be recognised in its early stages, by suitable splinting, dieting, and sunlight.”

In order to achieve the earliest recognition of cases of this kind the closest relations have been established between the clinic and the various other branches of the municipal health service—infant welfare centres, tuberculosis clinic, etc.—and the voluntary hospitals in the Borough.

Hospital treatment.—Of the 329 cases that have been on the register and regarded as suitable for treatment during the past year, 28 (or 8.5%) required hospital treatment and were admitted to the Children’s Hospital, Leasowe. These cases comprise:—

| | Cases. | Stay in hospital. | | |
|------------------------------|--------|-------------------|------|------|
| | | Days | Min. | Max. |
| Rickets | 18 | 17 | 132 | 57 |
| Acquired deformities | 2 | 55 | 152 | 103 |
| Congenital deformities | 3 | 2 | 45 | 21 |
| Infantile paralysis | 1 | 152 | — | 152 |
| Spastic paralysis | 2 | 66 | 275 | 170 |
| Non-tuberculous osteitis ... | 2 | 17 | 18 | 17 |

The total number of days in hospital was 1,938 (5.3 beds occupied throughout the year).

In addition to the above, 14 cases were referred to the hospital for X-Ray examination, and 9 cases for the application of plaster of Paris splints.

Massage and remedial exercises.—This work is, by arrangement, carried out by the Birkenhead and Wirral Invalid Children's Association. An average of 44 cases have been treated per month; these cases making 3,211 attendances, averaging 263 per month. 59 new cases have been given treatment during the year, and in 43 cases treatment has been terminated.

The most useful assistance has again been given by the Invalid Children's Association during the past year in ascertainment, treatment (especially in assisting the parents in obtaining splints, appliances, and surgical boots), artificial sunlight treatment and after-care.

Treatment of uncleanness.—The average number of visits paid during 1928 by the Health Nurses to each school in the Borough was 20.8; the total examinations numbering 56,857.

The number of individual children found by the Health Nurses to require attention was 2,855, as compared with 2,669 in 1927. In every case the parents were informed. In 41 cases of persistent neglect notices were served; and 9 children were compulsorily cleansed at the cleansing station. The Nurses paid 33 visits to the homes of children (28 first visits, 5 re-visits).

DENTAL INSPECTION AND TREATMENT (ELEMENTARY SCHOOLS)

(A) INSPECTION.

Scope of past year's work.—The work of dental inspection and treatment was concerned with the periodical re-inspection and treatment of those children who had been examined in the original dental inspection which was carried out during 1921 and the first part of 1922 (children born in the years 1914, 1915 and 1916), and with the inspection and treatment of children born in the years 1921, 1922, 1923 and 1924.

Number inspected.—8,818 children were dentally inspected during the year as follows:—

| | |
|---------------------------|-------|
| Aged four years | 188 |
| Aged five years | 2515 |
| Aged six years | 1015 |
| Aged seven years | 1715 |
| Aged twelve years | 2121 |
| Aged thirteen years | 1230 |
| Aged fourteen years | 34 |
| | <hr/> |
| | 8818 |
| | <hr/> |

The figures for the preceding year (1927) were:—

| | |
|---------------------------|-------|
| Aged ten years | 989 |
| Aged eleven years | 2258 |
| Aged twelve years | 2127 |
| Aged thirteen years | 1234 |
| | <hr/> |
| | 6608 |
| | <hr/> |

Number requiring dental treatment.—Of the 8,818 children inspected, 6,268 (71.1%) were selected as requiring treatment, the parents being advised to obtain this treatment privately, or, if unable to do this, at the Dental Clinic.

Cleanliness of teeth.—The children examined were classified according to cleanliness of teeth as follows:—

| | |
|--------------------|-------|
| Clean | 2956 |
| Fairly clean | 4803 |
| Dirty | 1059 |
| | <hr/> |
| | 8818 |
| | <hr/> |

Condition of gums.—The following figures show the condition of the gums of the children examined:—

| | |
|---------------------|-------|
| Gums healthy | 6488 |
| Gums inflamed | 1722 |
| Gums septic | 608 |
| | <hr/> |
| | 8818 |
| | <hr/> |

Condition of bite.—This was found to be as set out below:—

| | |
|-----------------|-------|
| Bite good | 5606 |
| Bite fair | 2648 |
| Bite bad | 564 |
| | <hr/> |
| | 8818 |
| | <hr/> |

(B) TREATMENT.

Notices were sent out to the parents of the 6,268 children found to require dental treatment, with the following results:—

| | | |
|---|-------|---------|
| Refused to have treatment done | 1030 | (16.4%) |
| Stated that treatment would be obtained privately ... | 1740 | (27.7%) |
| Requested treatment at the Dental Clinic | 3498 | (55.8%) |
| | <hr/> | |
| | 6268 | |
| | <hr/> | |

Treatment at the Dental Clinic.—Of the 3,498 children for whom treatment at the clinic was requested

2666 were treated before the end of the year
 818 did not attend when sent for
 14 were awaiting treatment at the end of the year

3498

Besides the above 2,666 children treated at the clinic following on inspections held in 1928, 88 were treated who had been inspected in

1927 and had not been treated before the end of that year; and 565 children who were brought by the parents on their own initiative to the clinic were also treated. In addition, 1,025 of 3,535 children who were re-inspected during the year received treatment. The total number of children treated at the clinic during 1928 was therefore

| | |
|--|-------|
| Following on 1927 inspections | 88 |
| Following on 1928 inspections..... | 2666 |
| Following on 1928 re-inspections | 1025 |
| Brought by parents on their own initiative | 565 |
| | <hr/> |
| | 4344 |
| | <hr/> |

Details of treatment carried out.—This was as follows:—

| | |
|---------------------------------|------|
| Temporary teeth extracted | 2659 |
| Permanent teeth filled | 2455 |
| Permanent teeth extracted | 1375 |
| Total extractions | 4034 |
| Total fillings | 3653 |
| Anæsthetics—general | — |
| local | 2419 |
| Scalings | 1776 |
| Dressings | 1001 |

The total number of attendances at the clinic numbered 5,161, and the number of treatments completed during the year was 4,066. 1,957 parents paid 1s. each and 78 parents 6d. each for treatment; the total amount paid being £99 16s. 0d.

MEDICAL INSPECTION AND TREATMENT (SECONDARY SCHOOLS AND CONTINUATION SCHOOLS.)

The powers and duties of local education authorities with regard to medical inspection and treatment in secondary schools and continuation schools are set out in Section 80 of the Education Act, 1921.

Schools at which medical inspection is carried out.—Medical inspection is arranged for at the following schools:—

| | No. on Roll. |
|--|--------------|
| (a) Provided by the Local Education Authority— | |
| The Birkenhead Institute (Boys) | 501 |
| The Girls' Secondary School | 389 |
| Park High School (Boys) | 248 |
| Rock Ferry High School (Boys) | 274 |
| (b) Not provided by the Local Education Authority— | |
| The Higher Tranmere High School for Girls | 248 |
| The Convent Secondary School | 301 |

There are no continuation schools provided by the local education authority at which medical inspection has to be carried out.

Scope of medical inspection.—The existing arrangements provide for the examination once in each year of every child in the schools inspected; and for the re-examination of children found to be defective.

The opinion of the Board of Education in this connection is expressed in Circular 1153:—"In view of the many defects that may arise during the critical period of adolescence, the Board attach great importance to arrangements being made for all pupils to come annually, as a matter of routine, under medical supervision."

Birkenhead Institute.—At the annual inspection 328 children were inspected. Included in that number there were 41 children now examined for the first time as secondary school children. 99 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 51 |
| Defective vision | 29 |
| Nose and throat | 12 |
| Deformities | 1 |
| Heart disease | 7 |
| Other defects | 15 |

Girls' Secondary School.—At the annual inspection 360 girls were examined.

Included in the above total (360) there were 68 children now examined for the first time as secondary school children.

Of the 360 children examined, 78 were found to have defects requiring medical or dental attention; the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 38 |
| Defective vision | 10 |
| Nose and throat | 4 |
| Heart | 12 |
| Nervous system | 1 |

Rock Ferry High School.—At the annual inspection 247 children were inspected. 73 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 37 |
| Defective vision | 13 |
| Nose and throat | 6 |
| Skin diseases | 2 |
| Heart | 8 |
| Other defects | 11 |

Park High School.—At the annual inspection 220 children were inspected. 55 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 23 |
| Defective vision | 17 |
| Nose and throat | 3 |
| Ear | 6 |
| Heart | 1 |
| Other defects | 11 |

Higher Tranmere High School for Girls.—At the annual inspection 98 children were inspected. 9 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|---|
| Defective teeth | 6 |
| Defective vision | 3 |
| Enlarged tonsils | 1 |

Convent F.C.J.—At the annual inspection 244 children were inspected. 32 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 19 |
| Defective vision | 13 |
| Other defects | 1 |

MISCELLANEOUS

Examination of entrants to the Girls' Secondary School, the Birkenhead Institute, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College, and the Catholic Institute.—During the year 301 elementary school children were examined with a view to their admission to the above schools. 112 were found to require treatment for 127 defects, the latter being as follows:—

| | |
|-------------------------------|-------|
| Defective teeth | 68 |
| Defective vision | 19 |
| Nose and throat defects | 9 |
| Heart | 4 |
| Skin diseases | 3 |
| Other defects | 24 |
| | <hr/> |
| | 127 |

Claughton Road Special Council School for Mentally Defective Children.—The accommodation at the Special School for the year 1928 was 154. The average number on the rolls during the year was 114, and the average daily attendance was 95.

A routine inspection of all scholars attending the School was carried out. 105 children were examined, of whom 24 were found to have defects requiring medical or dental advice, the defects found being as follows:—

| | |
|------------------------|----|
| Defective teeth | 12 |
| Defective vision | 10 |
| Enlarged glands | 1 |
| Skin disease | 1 |

Fourteen visits were paid to the school during the year by the Assistant School Medical Officer, Dr. Deacon. At these visits 5 examinations were held of children suspected to be mentally deficient, with reference to their suitability for admission to the Special School. The results were as follows:—

| | |
|--|-------|
| Total number examined—Boys | 17 |
| Girls | 8 |
| | <hr/> |
| Number certified for admission—Boys | 13 |
| Girls | 7 |
| | <hr/> |
| Number not certified for admission— | |
| (a) Regarded as fit for ordinary school—Boys | 2 |
| Girls | 1 |
| | <hr/> |
| | 3 |

| | | |
|---|---|---|
| (b) Recommended for admission to School for the Deaf—Boys | 1 | |
| Girls | — | |
| | — | 1 |
| (c) Notified to the Local Authority under the Mental Deficiency Acts—Boys | 1 | |
| Girls | — | |
| | — | 1 |

24 children were permitted to leave the school after medical examination, as follows:—

| | |
|--|----|
| Fit for work | 11 |
| Left over 16 years of age | 5* |
| Transferred to elementary schools | 1 |
| Admitted to residential institution..... | 3 |
| Left district | 1 |
| Physically unfit to continue in attendance | 3 |
| | — |
| Total | 24 |

* 3 of these cases were notified to the Local Authority under the Mental Deficiency Acts.

Of the 11 children who left to take up work—

- 1 is employed as a domestic servant;
- 2 are employed in coal yards;
- 1 is employed as a road maker;
- 1 is employed in a shipyard;
- 4 are employed as errand boys;
- 1 is employed at a candleworks;
- 1 is usefully employed at home.

The average ages of the children attending the school, and their classification, are shown below:—

| Class | Boys | | Girls | |
|-------|---------------------------|---------------------------|---------------------------|---------------------------|
| | Average chronological age | * Average educational age | Average chronological age | * Average educational age |
| 1 | 13 | 9 | — | — |
| 2 | — | — | 13½ | 9 |
| 3 | 11½ | 7 | 11½ | 7½ |
| 4 | 10 | 5 | 9¾ | 5 |
| 5 | 8½ | 4 | 9½ | 4½ |

*Educational age based on Dr. Cyril Burt's Educational Age Tests.

School dinners have been provided throughout the year at a cost to the parent of 2d. per day.

| | |
|-------------------------------|------|
| Daily average supplied | 75 |
| Total cost for the year | £125 |

The weekly menu was:—

- Monday*.....Soup; boiled fruit pudding.
- Tuesday*.....Irish stew; milk pudding.
- Wednesday*...Meat pie and vegetables.
- Thursday*.....Irish stew; milk pudding.
- Friday*.....Potato pie; fruit (when possible).

The Voluntary After-Care Association in connection with the school has continued throughout the year to supervise and help former pupils of the school.

Holiday camp at Gronant.—During the year the Committee approved of arrangements being made for an experimental summer camp at Gronant, Prestatyn, which proved an unqualified success in every way. The locality and bungalow were all that could be desired, and under the efficient management of members of the school staff the elder girls spent a most happy and profitable fortnight.

It was particularly interesting to note the remarkable response the girls made to their changed environment. Not only health and intelligence improved, but their language, conduct and interests became more normal. Much time was devoted to personal hygiene and physical training, and with the regular food and bracing mountain air by the end of the fortnight they were, without exception, transformed into happy, healthy, bonny girls. Members of the Committee and officials who visited the camp were particularly impressed by their bright and normal appearance.

The cost for the two weeks' camp was as follows:—

| | |
|---|----------|
| Hire of bungalow | £8 0 0 |
| Travelling expenses | 5 13 6 |
| Food, cleaning, laundry, fuel, and miscellaneous expenses | 21 9 10 |
| Gross cost | £35 3 4* |
| Less donation from the Parents' and Friends' Voluntary Fund for clothing, etc. | 14 0 0 |
| Net cost | £21 3 4 |
| Anticipated grant from Board of Education..... | 10 11 8 |
| Cost to rates | £10 11 8 |

*i.e., 13s. 6d. per child per week.

Apart from the girls concerned, the whole school has benefited in many unexpected ways from this experiment. Both parents and children are more willing to make effort, the attendance is better, and the standard of conduct, cleanliness and tidiness higher than it has ever been.

In view of the slight cost and the many benefits derived it is earnestly hoped that the Committee will see their way to make an annual camp holiday an indispensable feature of the Special School life.

Provision of meals.—No figures are available for the calendar year 1928. During the financial year, 1st April, 1928, to 31st March, 1929, 1,275 children have been supplied with 101,287 meals. Meals were provided five days per week, with the exception of Bank and Public Holidays. In addition, approximately 25 children attending the Special Council School received 2,801 free meals.

Birkenhead and Wirral Invalid Children's Association.—During the year cases of deformity, paralysis, etc., were from time to time

referred to this Association, and valuable assistance was given—massage, artificial sunlight, and other suitable treatment being provided.

The following table shows the number of *massage* cases among children of school age dealt with by the Association during the year:—

| | Sent from School Clinics | Other cases | Total |
|---|--------------------------------|-------------|-------|
| Children under treatment at the end of 1927 | 44 | 29 | 73 |
| New children treated during the year | 43 | 17 | 60 |
| Children re-started, changed to clinic Dr., or reached school age | 10 | 2 | 12 |
| Children discharged during the year—Sent to hospitals or died | 21 | 13 | 34 |
| Children who ceased attending before completion of treatment or left the town .. | 19 | 9 | 28 |
| Children under treatment at end of 1928 | 57 | 26 | 83 |

The cases treated by *artificial sunlight* were as follows:—

| | Under school age | Of school age | Total |
|-------------------|------------------|---------------|-------|
| Cases | 52 | 53 | 105 |
| Attendances | 569 | 597 | 1166 |

The 97 cases referred from the school clinics to the Association were as follows:—

| Disease | No. of cases. |
|-----------------------------|---------------|
| Scoliosis | 6 |
| Chest deformity | 22 |
| Infantile paralysis | 12 |
| Spastic paralysis | 8 |
| Bronchitis | 6 |
| Post-pneumonia | 3 |
| Chorea | 1 |
| Round shoulders | 13 |
| Faulty body mechanics | 1 |
| Congenital deformity | 1 |
| Feet deformity | 13 |
| Rickets | 7 |
| Wry neck | 4 |
| | — |
| | 97 |
| | — |

Assistance has also been given to children of school age in the following ways:—

| | Sent from School Clinics | Other cases | Total |
|---|--------------------------------|-------------|-------|
| Children supplied with milk | 96 | 373 | 469 |
| Children supplied with tonics | 223 | 355 | 578 |
| Children supplied with surgical apparatus.. .. | 66 | 69 | 135 |
| Children sent to convalescent homes & country hospitals | 56 | 93 | 149 |

In every case the parents pay something towards the cost of treatment.

Rheumatism and heart disease.—The early detection of rheumatic infection in children, whether associated with heart symptoms or not, is a matter of the greatest importance. Early detection followed by appropriate treatment and continuous supervision can in many cases effect a complete cure. On the other hand children whose condition is not recognised until the disease is well established are in many cases permanently damaged.

In Birkenhead all cases of rheumatic disease discovered by Assistant School Medical Officers, whether at routine inspections in the schools or at the clinics, are referred to Dr. Dingwall Fordyce, the Honorary Physician at the Birkenhead and Wirral Children's Hospital. Dr. Fordyce very kindly examines all such children who attend at the hospital and sends reports regarding them to the School Medical Officer. The results following this arrangement, which has been in force for nearly two years, have already been encouraging. In a memorandum Dr. Fordyce makes the following comments:—

“ I think your arrangements through the Assistant School Medical Officers are most valuable. My distinct impression is that during the past two years, during which we have in combination obtained a considerable degree of accurate ascertainment, the course of rheumatism has, generally speaking, been definitely modified. The children on the whole have done better than one has been accustomed to in previous years. There can be no doubt that this is due in the main to two facts: (1) Special attention to the condition; (2) Intimate co-operation between Assistant Medical Officers, Rheumatic Hospital Clinic and Invalid Children's Association.

“ But much preventable illness and heart damage still occurs which can only be adequately dealt with by fuller residential accommodation. I think however that, short of this, benefit would accrue from sharper demarcation of the physical condition. It would be of definite advantage in some of these cases—as well as in other conditions—that the children should be certified Physically Defective under the Education Act, 1921, even though for the present no Special Day School exists.”

The need for special residential accommodation for these children, to which Dr. Fordyce refers, is a very real one. There is no doubt that treatment for a considerable period in such an institution is very often the only satisfactory method of dealing with the cases; and it is to be hoped that in the near future provision of this kind will be made for Birkenhead. In this connection a development of the present use of Thingwall Sanatorium might profitably be discussed.

TABLE S 1.

Return of Medical Inspections during 1928 (see note *a*).

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections (see note *b*)

| | |
|---------------------|------|
| Entrants | 2495 |
| Intermediates | 2832 |
| Leavers | 2501 |
| Total | 7828 |

Number of other routine inspections (see note *c*) 105

B.—OTHER INSPECTIONS.

| | |
|---|-------|
| Number of special inspections (see note <i>d</i>)..... | 4640 |
| Number of re-inspections (see note <i>e</i>) | 7857 |
| Total | 12497 |

NOTES ON TABLE S 1.

(a) The return refers to a complete calendar year.*(b)* This heading relates solely to the routine medical inspection of the three ordinary age groups, *i.e.*, to medical inspections carried out:—*(i)* in compliance with Article 7 of the Consolidated Regulations relating to Special Services—Grant Regulations No. 19;*(ii)* on the school premises (or at a place specially sanctioned by the Board under Article 44 (*h*) of the Code);*(iii)* for the purpose of making a report on each child on the lines of the approved Schedule set out in Circular 582.*(c)* Under this heading may be recorded *routine* inspections, if any, of children who do not fall under the three code age-groups, *e.g.*, *routine* inspections of a fourth age-group or of other groups of children, as distinct from those who are individually selected on account of some suspected ill-health for a “Special” Inspection.*(d)* A Special Inspection is a medical inspection by the School Medical Officer himself or by one of the Assistant Medical Officers on his staff of a child specially selected or referred for such inspection, *i.e.*, not inspected at a routine medical inspection as defined above. Such children may be selected during a visit to the school or may be referred for inspection by the teachers, health nurses, attendance officers, parents, or otherwise. It is immaterial for the purpose of this heading whether the children are inspected at the school or at the Inspection Clinic or elsewhere. If a child happens to come before the School Medical Officer for special inspection during a year in which it falls into one of the routine groups, its routine inspection is entered in Part A of Table S 1 and its special inspection in Part B. The inspection to be recorded under the heading of special inspections is only the first inspection of the child so referred for a particular defect. If a child who has been specially inspected for one defect is subsequently specially inspected for another defect, such subsequent inspection is recorded as a special inspection and not as a re-inspection.*(e)* Under this heading are entered the medical inspections of children who as the result of a routine or special inspection come up later on for subsequent re-inspection, whether at the school or at the inspection clinic. The first inspection in every case is entered as a routine or special inspection as the case may be. Every subsequent inspection of the same defect is entered as a re-inspection.

Nothing is included under the head of special inspections or re-inspections except such inspections as are defined above. Attendances for treatment by a nurse or for examinations by anyone other than a doctor on the staff of the School Medical Service are not recorded as medical inspections. If, however, at any such attendance, a child is also examined by a member of the authority's medical staff, this is recorded as a special inspection or re-inspection as the case may be, even if treatment is also given; but such attendance may also of course be recorded as an attendance for treatment.

TABLE S 2.

A. Return of Defects found by Medical Inspection during the year ended 31st December, 1928.

| Defect or disease (1) | Routine Inspections | | Special Inspections | |
|---|----------------------------|--|----------------------------|--|
| | No. of defects | | No. of defects | |
| | Requiring treatment (2) | Requiring to be kept under observation, but not requiring treatment (3) | Requiring treatment (4) | Requiring to be kept under observation, but not requiring treatment (5) |
| <i>Malnutrition</i> | 15 | 10 | 20 | — |
| <i>Uncleanliness</i> | — | — | — | — |
| (See Table S 4, Group V.) | | | | |
| <i>Skin</i> Ringworm—Scalp | 7 | — | 60 | — |
| Body | 2 | — | 56 | — |
| Scabies | 5 | — | 35 | — |
| Impetigo | 8 | — | 367 | — |
| Other diseases (non-tuberculous) | 7 | 1 | 213 | — |
| <i>Eye</i> Blepharitis | 20 | 5 | 100 | — |
| Conjunctivitis | 3 | 1 | 178 | — |
| Keratitis | — | — | 1 | — |
| Corneal opacities | 2 | — | 10 | — |
| Defective vision (excluding squint) | 446 | 21 | 119 | — |
| Squint | 87 | 4 | 13 | — |
| Other conditions | 9 | 3 | 132 | — |
| <i>Ear</i> Defective hearing | 11 | 4 | 29 | — |
| Otitis media | 36 | 8 | 170 | — |
| Other ear diseases | 3 | 1 | 31 | — |
| <i>Nose and throat</i> .. Enlarged tonsils only | 204 | 100 | 85 | — |
| Adenoids only | 44 | 3½ | 7 | — |
| Enlarged tonsils and adenoids | 46 | 11 | 2 | — |
| Other conditions | 18 | 11 | 237 | — |
| <i>Enlarged cervical glands (non-tuberculous)</i> | 23 | 17 | 14 | — |
| <i>Defective speech</i> | 1 | — | 5 | — |
| <i>Teeth</i> Dental diseases (see note a) | 554 | 6 | 66 | — |
| (See Table S 4, Group IV.) | | | | |
| <i>Heart and circulation</i> — | | | | |
| Heart disease—Organic | 8 | 2 | 4 | — |
| Functional | 50 | 47 | 12 | — |
| Anæmia | 17 | 6 | 39 | — |
| <i>Lungs</i> Bronchitis | 38 | 21 | 81 | — |
| Other non-tuberculous diseases | 38 | 25 | 212 | — |
| <i>Tuberculosis</i> ... Pulmonary—Definite | — | — | 1 | — |
| Suspected | 2 | 2 | 1 | — |
| Non-pulmonary—Glands | 4 | — | 3 | — |
| Spine | — | — | — | — |
| Hip | — | — | 1 | — |
| Other bones and joints | — | — | 1 | — |
| Skin | — | — | — | — |
| Other forms | 3 | 2 | 1 | — |
| <i>Nervous system</i> .. Epilepsy | 2 | 1 | 7 | — |
| Chorea | 5 | 3 | 8 | — |
| Other conditions | 2 | 3 | 2 | — |
| <i>Deformities</i> Rickets | 2 | — | — | — |
| Spinal curvature | 2 | — | 1 | — |
| Other forms | 15 | 3 | 8 | — |
| <i>Other defects and diseases</i> | 182 | 84 | 2310 | — |

TABLE S 2—Continued.

B. Number of *individual children* (see note *b*) found at *routine* medical inspection to require treatment (excluding uncleanness and dental diseases).

| Group. (1) | Number of children. | | Percentage of children found to require treatment (4) |
|---------------------------------|---|---------------------------------------|---|
| | Inspected (see note <i>c</i>). (2) | Found to require treatment. (3) | |
| CODE GROUPS : | | | |
| Entrants..... | 2495 | 374 | 15.0 |
| Intermediates. | 2832 | 541 | 19.1 |
| Leavers | 2501 | 764 | 30.5 |
| Total (code groups) | 7828 | 1679 | 21.4 |
| Other routine inspections | 105 | 24 | 21.9 |

NOTES ON TABLE S 2.

(*a*) The figures included in this space refer to the findings of the Medical Staff and not those resulting from dental inspection in the schools by the School Dental Surgeon. The findings of the School Dental Surgeon are recorded in Table S 4 Group IV

(*b*) No individual child is counted more than once in this part of Table S 2, *i.e.*, under B., even if it is found to be suffering from more than one defect.

(*c*) The figures in this column are the same as those given in Table S 1 A.

TABLE S 3.

Return of all exceptional children in the area (see note *a*).

| | | | Boys | Girls | Total |
|---|--|--|------|-------|-------|
| <i>Blind</i> (including partially blind) (see note <i>b</i>) | (i) Suitable for training in a school or class for the totally blind | Attending certified schools or classes for the blind | 7 | 5 | 12 |
| | | Attending public elementary schools (see note <i>c</i>) | - | - | - |
| | | At other institutions | - | - | - |
| | | At no school or institution | 1 | - | 1 |
| | (ii) Suitable for training in a school or class for the partially blind | Attending certified schools or classes for the blind | - | - | - |
| | | Attending public elementary schools (see note <i>c</i>) | 24 | 26 | 50 |
| | | At other institutions | - | - | - |
| | | At no school or institution | 1 | - | 1 |
| <i>Deaf</i> (including deaf and dumb and partially deaf) (see note <i>d</i>) | (i) Suitable for training in a school or class for the totally deaf or deaf and dumb | Attending certified schools or classes for the deaf | 9 | 8 | 17 |
| | | Attending public elementary schools (see note <i>c</i>) | - | - | - |
| | | At other institutions | - | - | - |
| | | At no school or institution | - | 2 | 2 |
| | (ii) Suitable for training in a school or class for the partially deaf | Attending certified schools or classes for the deaf | - | - | - |
| | | Attending public elementary schools (see note <i>c</i>) | 2 | - | 2 |
| | | At other institutions | - | - | - |
| | | At no school or institution | - | - | - |
| <i>Mentally defective</i> | Feeble-minded (cases not notifiable to the Local Control Authority.) (see note <i>e</i> .) | Attending certified schools for mentally defective children | 66 | 47 | 113 |
| | | Attending public elementary schools (see note <i>c</i>) | - | - | - |
| | | At other institutions | - | - | - |
| | | At no school or institution | - | - | - |
| <i>Epileptics</i> | Suffering from severe epilepsy (see note <i>f</i>) | Attending certified special schools for epileptics | 3 | 1 | 4 |
| | | In institutions other than certified special schools | - | - | - |
| | | Attending public elementary schools (see note <i>c</i>) | - | - | - |
| | | At no school or institution | - | - | - |
| | Suffering from epilepsy which is not severe (see note <i>g</i>) | Attending public elementary schools (see note <i>c</i>) | 1 | 2 | 3 |
| | | At no school or institution | - | - | - |
| <i>Physically defective</i> | Infectious pulmonary and glandular tuberculosis (see note <i>h</i>) | At sanatoria or sanatorium schools approved by the Ministry of Health or the Board | - | - | - |
| | | At other institutions | 2 | 2 | 4 |
| | | At no school or institution | 2 | 1 | 3 |
| | Non-infectious but active pulmonary and glandular tuberculosis (see note <i>h</i>) | At sanatoria or sanatorium schools approved by the Ministry of Health or the Board .. | 1 | 3 | 4 |
| | | At certified residential open air schools | - | - | - |
| | | At certified day open air schools | - | - | - |
| | | At public elementary schools (see note <i>c</i>) | - | 2 | 2 |
| | | At other institutions | - | - | - |
| | | At no school or institution | - | 1 | 1 |

TABLE S 3—Continued.

| | | | | | |
|---|--|--|----|----|----|
| <i>Physically defective (continued)</i> | Delicate children (<i>e.g.</i> , pre-or latent tuberculosis, malnutrition, debility, anaemia, etc. (see note <i>h</i>)* | At certified residential open air schools | — | — | — |
| | | At certified day open air schools..... | — | — | — |
| | | At public elementary schools (see note <i>c</i>)..... | 34 | 42 | 76 |
| | | At other institutions | — | — | — |
| | | At no school or institution | — | — | — |
| | Active non-pulmonary tuberculosis (see note <i>h</i>) | At sanatoria or hospital schools approved by the Ministry of Health or the Board | 9 | 7 | 16 |
| | | At public elementary schools (see note <i>c</i>)..... | 2 | 1 | 3 |
| | | At other institutions | — | — | — |
| | | At no school or institution | 2 | 1 | 3 |
| | Crippled children (other than those with active tuberculous disease), <i>e.g.</i> , children suffering from paralysis, &c., and including those with severe heart disease (see note <i>h</i>) | At certified hospital schools | 1 | — | 1 |
| | | At certified residential cripple schools | 1 | — | 1 |
| | | At certified day cripple schools | — | — | — |
| | | At public elementary schools (see note <i>c</i>)..... | 34 | 46 | 80 |
| | | At other institutions | 2 | 4 | 6 |
| | | At no school or institution | 13 | 7 | 20 |

*A complete record of these children has not been kept, as there is no open-air school available.

NOTES ON TABLE S 3.

(a) This Table is a return of all children in the area for whom the Local Education Authority are responsible and who (except in the case of children suffering from epilepsy which is not severe) have been ascertained to be blind, deaf, defective or epileptic within the meaning of Part V of the Education Act 1921. It is the statutory duty of every Local Education Authority formally to ascertain all defective children in their area irrespective of the actual provision now made for their instruction in Special Schools. It is assumed by the Board of Education that every authority will have a complete list of such children compiled from returns made continuously during the year and kept constantly up to date. In order to secure uniformity, authorities are requested to make up this Table from their list of defective children as it stands on the last day of each calendar year.

Children who are living in residential schools in the area but who come from other areas are not included in this Table; but children are included who are living in residential schools outside the area and who are being maintained there by the authority.

For the purpose of this Table no child is included whose defect has not been ascertained by the School Medical Officer or a medical member of the authority's staff.

The definitions of defective children as given in the Act are as follows—

A blind child is a child who is too blind to be able to read the ordinary school books used by children.

A deaf child is a child who is too deaf to be taught in a class of hearing children in an elementary school.

Mentally and physically defective children are children who, not being imbecile and not being merely dull and backward, are defective, that is to say, children who by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as under Part V of the Act may be provided for defective children.

Epileptic children are children who, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary public elementary schools.

NOTES ON TABLE S 3—Continued.

(b) For the purpose of this return the Board require that children who are blind within the meaning of the Act should be divided into two categories, *i.e.*, (1) those who are totally blind or so blind that they can only be appropriately taught in a school or class for totally blind children, and (2) those who though they cannot read ordinary school books, or cannot read them without injury to their eyesight, have such power of vision that they can appropriately be taught in a school or class for the partially blind.

It should be understood that children who are able by means of suitable glasses to read the ordinary school books used by children without fatigue or injury to their vision are not included in this Table.

(c) The Board emphasises the fact that it should be understood that none of the children in this Table (except children suffering from epilepsy which is not severe) should in fact be attending public elementary schools. When the heading is retained, it is merely because at present the insufficiency of Special School accommodation makes it impossible to do better for some defective children than to allow them to attend the ordinary school. No space is left for the entry of children with infectious pulmonary tuberculosis attending public elementary schools, as these children should, of course, be promptly excluded from such schools.

(d) Children who are deaf within the meaning of the Act are classified for the purpose of this Table as (1) totally deaf or so deaf that they can only be appropriately taught in a school or class for the totally deaf, and (2) partially deaf, *i.e.*, those who can appropriately be taught in a school or class for the partially deaf.

(e) This category includes only those children for whose education and maintenance the Local Education Authority are responsible, and who are not eligible for notification to the Local Control Authority under the Mental Deficiency Act.

(f) In this part of the Table only those children are included who are epileptic within the meaning of the Act.

(For practical purposes the Board are of opinion that children who are subject to attacks of major epilepsy in school should be recorded as "severe" cases and excluded from ordinary public elementary schools.)

(g) In this part of the Table are entered the remainder of the epileptic children in the area, *i.e.*, children whose disease is of such a kind as not to unfit them for attendance at an ordinary public elementary school.

(h) The exact classification of physically defective is admittedly a matter of difficulty. The Board request School Medical Officers to record these defective children as accurately as possible under the selected sub-headings, taking care that *no child is entered under more than one sub-heading.*

TABLE S 4.

Return of Defects treated during the year ended 31st December, 1928.
(see note a).

TREATMENT TABLE.

Group I.—Minor Ailments (excluding uncleanness, for which see Group V).

| Defect or disease (1) | Number of defects treated, or under treatment during the year | | |
|--|---|------------------|--------------|
| | Under the Authority's scheme (see note b.) (2) | Otherwise (3) | Total (4) |
| <i>Skin</i> —Ringworm—scalp | 60 | — | 60 |
| body | 56 | — | 56 |
| Scabies | 35 | 1 | 36 |
| Impetigo | 365 | — | 365 |
| Other skin diseases | 213 | 1 | 214 |
| <i>Minor eye defects</i> | 409 | 1 | 410 |
| (external and other, but excluding cases falling in Group II.) | | | |
| <i>Minor ear defects</i> | 219 | 3 | 222 |
| (see note c) | | | |
| <i>Miscellaneous</i> | 2286 | 2 | 2288 |
| (c.g., minor injuries, bruises, sores, chilblains, &c.) | | | |
| Total .. | 3643 | 8 | 3651 |

Group II.—Defective Vision and Squint (excluding minor eye defects treated as minor ailments—Group I.)

| Defect or disease (1) | Number of defects dealt with | | | |
|---|--|--|-------------------|--------------|
| | Under the Authority's scheme (see note b.) (2) | Submitted to refraction by private practitioner or at hospital, apart from the Authority's scheme (3) | Otherwise. (4) | Total (5) |
| Errors of refraction (including squint) (operations for squint should be recorded separately in the body of the report) | 884 | 18 | — | 902 |
| Other defect or disease of the eyes (excluding those recorded in Group I.) | 19 | — | — | 19 |
| Total | 903 | 18 | — | 921 |

Total number of children for whom spectacles were prescribed—

(a) Under the Authority's scheme 868
(b) Otherwise 17

Total number of children who obtained or received spectacles—

(a) Under the Authority's scheme 810
(b) Otherwise 17

TABLE S 4—Continued.

Group III.—Treatment of Defects of Nose and Throat.

| Number of defects. | | | | |
|--|--|---------------|------------------------------------|-----------------------|
| Received operative treatment. | | | Received other forms of treatment. | Total number treated. |
| Under the Authority's scheme, in clinic or hospital (see note <i>b</i>). (1) | By private practitioner or hospital, apart from the Authority's scheme. (2) | Total. (3) | | |
| — | 21 | 21 | 217 | 238 |

Group IV.—Dental Defects.

(1) Number of children who were—

(a) Inspected by the Dentist—

| | |
|---------------------------------|-------|
| Routine age groups—aged 4 | 188 |
| aged 5 | 2515 |
| aged 6 | 1015 |
| aged 11 | 1715 |
| aged 12 | 2121 |
| aged 13 | 1230 |
| aged 14 | 34 |
| | 8818* |

Special (see note *d*) —

(b) Found to require treatment 6268

(c) Actually treated 2666

(d) Re-treated during the year as the result of periodical examination (see note *c*) 1025

| | |
|---|-----|
| (2) Half-days devoted to—Inspection | 149 |
| Treatment | 592 |
| | 741 |

(3) Attendances made by children for treatment 5161

| | |
|--|------|
| (4) Fillings.....Permanent teeth | 2455 |
| Temporary teeth | 1198 |
| | 3653 |

| | |
|---|------|
| (5) Extractions.....Permanent teeth | 1375 |
| Temporary teeth | 2659 |
| | 4034 |

(6) Administrations of general anæsthetics for extractions —

| | |
|--|------|
| (7) Other operations.....Permanent teeth | 518 |
| Temporary teeth | 483 |
| | 1001 |

Scalings 1776

Local anæsthetics 2419

*In addition, the following re-inspections were carried out:—

| | |
|---------------|------|
| Aged 4 | 2 |
| Aged 5 | 339 |
| Aged 6 | 873 |
| Aged 11 | 235 |
| Aged 12 | 1545 |
| Aged 13 | 511 |
| | 3535 |

565 children not of these age groups, but who were on the books of the Clinic, also received treatment.

Group V.—Uncleanliness and Verminous Conditions (see note f).

| | |
|---|-------|
| (i) Average number of visits per school made during the year by Health Nurses | 20.8 |
| (ii) Total number of examinations of children in the schools by Health Nurses | 56857 |
| (iii) Number of individual children found unclean | 2855 |
| (iv) Number of children cleansed under arrangements made by the Local Education Authority | 9 |
| (v) Number of cases in which legal proceedings were taken— | |
| (a) Under the Education Act, 1921 | — |
| (b) Under School Attendance Byelaws | — |

NOTES ON TABLE S 4.

(a) The Table deals with all defects treated during the year, however they were brought to the Authority's notice, *i.e.*, whether by routine inspection, special inspection, or otherwise, during the year in question or previously.

(b) This heading includes all cases that received treatment under definite arrangements or agreements for treatment made by the Local Education Authority and sanctioned by the Board of Education under Sections 16 and 80 of the Education Act, 1921. Cases which, after being recommended for treatment or advised to obtain it, actually received treatment by private practitioners, or by means of direct application to Hospitals, or by the use of hospital tickets supplied by private persons, etc., are entered under other headings.

(c) The Board request that if any treatment is given for more serious diseases of the ear (*e.g.*, operative treatment in hospital) it should not be recorded here but in the body of the School Medical Officer's Annual Report.

(d) The heading "Specials" in this Table relates to all children inspected by the School Dentist otherwise than in the course of the routine inspection of children in one of the age groups covered by the Authority's approved scheme, namely, to children specially selected by him, or referred by medical officers, parents, teachers, etc., on account of urgency. The number inspected in each age group is separately shown, as well as the total, but under "Specials" only the total number is given.

(e) It should be understood that all the cases entered under this head are also entered under head (c)

(f) A statement as to the arrangements made by the Local Education Authority for cleansing verminous children and a record of the cases in which legal proceedings were taken are included in the body of the School Medical Officer's report.

N.B—Groups I—V above cover all the defects for which treatment is normally provided as part of the School Medical Service. The Board request that particulars as to the measures adopted by the Authority for providing treatment for other types of defect (*e.g.*, for orthopædic treatment) or for securing improvement in types of defect which do not fall to be treated under the Authority's own scheme and for which the Authority neither incur expenditure nor accept any responsibility, together with a statement of the effect of the measures taken, should be included in the body of the School Medical Officer's report; such particulars following the headings of Table S 2.

TABLE S 5.

Number of children examined at Routine Medical Inspections in the Schools and number found defective in each School.

| SCHOOL | Entrants | Intermediates | Leavers | Total ordinary inspections | Parents present | Number of defective children | Number of defects found | CLASSIFICATION OF DEFECTS | | | | | | | | | | | | Totals | | | |
|---------------------------|----------|---------------|---------|----------------------------|-----------------|------------------------------|-------------------------|---------------------------|---------------|------|------|-----------------|-----------------------------------|------------------|-------|-----------------------|-------|--------------------------|------------------------------|--------|----------------|-------------|----------------------------|
| | | | | | | | | Malnutrition | Skin diseases | Eyes | Ears | Nose and throat | Cervical glands (non-tuberculous) | Defective speech | Teeth | Heart and circulation | Lungs | Tuberculosis (pulmonary) | Tuberculosis (non-pulmonary) | | Nervous system | Deformities | Other defects and diseases |
| Bidston Avenue | 99 | 145 | 76 | 320 | 255 | 133 | 159 | 1 | — | 25 | 3 | 55 | 5 | 1 | 35 | 9 | 5 | — | — | 1 | — | 19 | 159 |
| Brassey Street Infants .. | 99 | 69 | — | 168 | 148 | 48 | 57 | 1 | 1 | 10 | 1 | 18 | 1 | — | 6 | — | 8 | — | — | 1 | 1 | 9 | 57 |
| Cathcart Street | 110 | 134 | 60 | 304 | 242 | 108 | 122 | 2 | — | 18 | 7 | 34 | 2 | — | 32 | 6 | 3 | 1 | — | 2 | 1 | 14 | 122 |
| Hemingford St. Infants.. | 71 | 73 | — | 144 | 124 | 12 | 12 | — | 1 | 1 | — | 1 | — | — | 7 | — | — | — | — | — | — | 2 | 12 |
| Laird Street | 84 | 128 | 101 | 313 | 225 | 101 | 117 | 2 | 1 | 18 | 1 | 31 | 2 | — | 40 | 11 | 3 | — | — | — | 1 | 7 | 117 |
| Mersey Park | 102 | 132 | 47 | 281 | 213 | 44 | 46 | — | 5 | 19 | — | 7 | 1 | — | 5 | 2 | 2 | — | 1 | — | — | 4 | 46 |
| Pilgrim Street | 117 | 97 | 52 | 266 | 239 | 40 | 41 | — | 1 | 17 | 1 | 10 | 1 | — | 2 | 2 | 1 | — | — | 1 | 2 | 3 | 41 |
| Rock Ferry | 142 | 170 | 127 | 439 | 281 | 86 | 86 | — | 1 | 46 | 2 | 8 | — | — | 18 | — | 2 | — | — | — | 2 | 7 | 86 |
| The Woodlands | 90 | 114 | 103 | 307 | 274 | 52 | 58 | — | — | 23 | 2 | 8 | — | — | 16 | 3 | 1 | — | — | — | — | 5 | 58 |
| Well Lane..... | 86 | 116 | 131 | 333 | 246 | 41 | 45 | — | — | 18 | 1 | 6 | 1 | — | 9 | 1 | 2 | — | 2 | — | 1 | 4 | 45 |
| Woodchurch Road | 134 | 156 | 86 | 376 | 286 | 62 | 64 | — | — | 22 | — | 7 | 1 | — | 23 | 3 | 1 | — | — | — | 1 | 6 | 64 |
| Park Road Temporary | 37 | 28 | — | 65 | 52 | 7 | 8 | — | 1 | 2 | — | 3 | — | — | 1 | — | 1 | — | — | — | — | — | 8 |
| Cleveland Street .. | 64 | 50 | — | 114 | 98 | 9 | 9 | — | — | — | — | — | — | — | 8 | — | — | — | — | — | — | 1 | 9 |
| Price Street .. | — | 46 | 21 | 67 | 41 | 18 | 19 | — | — | 10 | — | — | — | — | 8 | — | — | — | — | — | — | 1 | 19 |
| Trinity Street .. | 48 | 13 | 64 | 125 | 80 | 52 | 62 | 1 | 1 | 10 | 3 | 14 | — | — | 18 | 4 | 7 | — | — | 1 | — | 3 | 62 |
| Cloughton H.G. | 86 | 106 | 85 | 277 | 221 | 47 | 49 | 1 | — | 20 | 2 | 9 | — | — | 11 | 2 | — | — | — | — | — | 4 | 49 |

TABLE S 6

Past Infectious Diseases (Elementary School Children).

| (1) Children aged 3—7 | No. of | |
|-----------------------------|--------|-------------|
| | Cases. | Percentage. |
| No Infectious Disease | 487 | 19.5 |
| Measles | 1676 | 67.2 |
| Whooping Cough | 1189 | 47.7 |
| Scarlet Fever | 68 | 2.7 |
| Diphtheria | 43 | 1.7 |
| Chicken Pox | 690 | 27.7 |
| Mumps | 294 | 11.1 |

| (2) Children aged 8—14 | No. of | |
|-----------------------------|--------|-------------|
| | Cases. | Percentage. |
| No Infectious Disease | 296 | 5.5 |
| Measles | 4872 | 89.6 |
| Whooping Cough | 3279 | 60.3 |
| Scarlet Fever | 375 | 6.9 |
| Diphtheria | 201 | 3.7 |
| Chicken Pox | 2501 | 46.0 |
| Mumps | 1674 | 30.1 |

Note.—The same child may have had more than one of these diseases